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DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION AND PUBLIC HEALTH IN TEXAS

The American Medical Association Will Meet in its ninety-seventh annual session June 21-25 in Chicago. The usual scientific sessions, meetings of the House of Delegates, scientific and technical exhibits, and entertainments will be held. Most of the activities are scheduled for the Navy Pier.

It should be pointed out that registration for the session will be limited to fellows of the American Medical Association. However, any member of a county medical society can become a fellow, even at the place of registration for the session, by presenting his state medical association membership card and paying the sum of $12, which in addition to fellowship entitles him to receive *The Journal of the American Medical Association* or another of the several publications of the Association. Physicians planning to attend the Chicago meeting might well check in advance to see that their fellowship in the American Medical Association is in order. By sending the proper credentials and a check to the Secretary, Dr. George F. Lull, 535 North Dearborn Street, Chicago 10, a member of a county medical society can secure his fellowship promptly.

Hotel reservations also should be checked in advance, for suitable accommodations will be at a premium. Dr. Fred H. Muller, chairman of the Subcommittee on Hotels, 105 West Madison Street, Room 1707, Chicago 2, will attempt to arrange for hotel reservations upon request. Physicians desiring this service should be specific in detailing the type of accommodations required, the dates of arrival and departure, and several choices of hotels.

A number of related meetings have been scheduled for the periods immediately preceding or following the American Medical Association session. The third National Conference of County Medical Society Officers will convene at 9:30 a. m., June 20, in the Palmer House for a program on "The Job of the County Medical Society." Three panel discussions relating to the county medical society—"Its Part in Medical Organization," "Its Responsibility to the Membership," and "Its Responsibility to the Public"—have been planned with periods open for questions and answers. In addition, a luncheon will feature a prominent speaker on "National Medical Emergency." Dr. May Owen, Fort Worth, is chairman of the "grass roots" conference for Texas, but all county medical society officers are invited and urged to attend.

The Woman's Auxiliary will again meet concurrently with the American Medical Association to transact business and to participate in fellowship activities. Headquarters for the Auxiliary will be maintained at Hotel LaSalle. Wives of physicians attending the Chicago session, whether or not they are members of a county or state auxiliary, are encouraged to be present for the meetings of the national organization.

Of interest to Texas physicians and their wives who wish to combine attendance at the Chicago meetings with a vacation trip is a tour arranged by the medical associations of Oklahoma and Kansas. A thirteen-day all-

expense tour through the Canadian Rockies has been planned to start from Chicago at the close of the American Medical Association meeting. Special cars have also been reserved for the pre-convention trip to Chicago and the return trip from there. Texas physicians have been extended a special invitation to join the Oklahoma and Kansas delegations in this tour. Further information may be secured from the Rainbow Travel Service, Inc., 225 North Robinson, Oklahoma City, which is handling arrangements for the tour.

Although details of the complete program for the Chicago annual session have not been released, there is every assurance that the meeting will be outstanding. The State Medical Association of Texas will be represented officially by Dr. H. R. Dudgeon, Waco; Dr. B. E. Pickett, Sr., Carrizo Springs; Dr. E. H. Cary, Dallas; Dr. F. J. L. Blasingame, Wharton; and Dr. Allen T. Stewart, Lubbock, all of whom are duly elected delegates. However, it is hoped that Texas will have numerous unofficial representatives to take advantage of the intellectual and scientific stimulus and the good fellowship which the American Medical Association session will offer.

The Ten Point Program of the American Medical Association, formulated in 1945 to improve the health and medical care situation in the United States, was the subject of a progress report at the January, 1948, meeting of the House of Delegates in Cleveland. This national health program, adopted in a fourteen point form by the Council on Medical Service in October, 1945, and approved by the House of Delegates in December, 1945, has gradually been revised and developed to keep pace with changing conditions. For almost three years the program has served as a standard of policy and achievement for the medical profession and indeed for the citizenship as a whole. The means by which the program has been activated and the success which has been accomplished thus far were pointed out by the Board of Trustees of the American Medical Association at the midwinter meeting of the House of Delegates in a report published in *The Journal of the American Medical Association,* January 24, 1948, beginning on page 261.

The highlights of the report are offered here so that all members of the State Medical Association of Texas may become familiar with the constructive action which organized medicine is fostering. Not only should each physician be aware of what his profession is doing to reach the goals set forth in the national health program; he should attempt to integrate his own activities with the over-all forward movement and to inform his patients and friends of the positive steps toward better health conditions which American medicine is taking.

The report emphasizes the following points:

1. *Nutrition, Housing, Clothing, Recreation.*—A minimum standard of nutrition, housing, clothing and recreation as fundamental to good health and as an objective to be achieved in any suitable health program is urged. Responsibility for attainment of these standards should be placed on the individual, but the application of community efforts and government aid compatible with the maintenance of free enterprise should be encouraged where needed.

While the essentials with which this section deals are not primarily medical there is a definite relationship to public health, and physicians as an integral part of the community are assuming their responsibility in promoting the attainment of the minimum standards recommended. The A. M. A. has contributed to this effort through nationwide radio programs, the preparation of local transcriptions from which 5,000 or more local programs have been broadcast, the experimental use of television health education programs in the Chicago area, numerous lectures, correspondence, and distribution of hundreds of thousands of pamphlets for the benefit of the general public. Publication of articles on recreation and physical fitness in various health journals, cooperation and constant liaison with other organizations interested in these subjects, such as the American Association for Health, Physical Education, and Recreation and the American Public Health Association, and furnishing representation at public hearings on pending legislation designed to aid in achieving standards of food, housing, clothing, and recreation for all the people have been accomplished through the activities of the American Medical Association with the assistance of various state associations and other cooperative agencies and organizations.

2. *Preventive Medicine, Health Departments.*—The provision of preventive medical services through professionally competent health departments with sufficient staff and equipment to meet community needs is essential in any health program, but health departments should not assume the care of the sick as a function, since administration of medical care under such auspices tends to cause deterioration in the quality of the service rendered. Medical care to those unable to provide for themselves is best administered by local and private agencies with the aid of public funds when needed. The program for national health should include the administration of medical care, including hospitalization to all those who need it; all those able to pay for this care should obtain it through a physician of the patient's choice and those unable to pay should be provided this type of care by a physician of the patient's choice with funds preferably provided by local agencies but with assistance from federal funds if necessary. The principle of federal aid through provision of funds or personnel is recognized with the understanding that the local areas shall control their own agencies as has been established in the field of education.

The A. M. A. has pioneered in many phases of health education; it endorses periodic health examinations and publishes the standard manual in this field and examination blanks and has editorially through *The Journal* and *Hygeia* promoted the principle of periodic health inventories to both the profession and the public. Acting in conjunction with the American Public Health Association and

the Association of State and Territorial Health Officers, it supports the principle of extending county or district health department service to every area of the United States.

The principles enumerated have been supported through various media of health education, including television programs and radio network broadcasts and transcriptions. The A. M. A. has promoted the creation of health councils as effective agencies for accomplishing health programs; has taken joint action with labor and employer groups in the elaboration of physical examination standards, in many aspects of workmen's compensation coverage, and in labor-management cooperation for improved industrial health and safety; and has taken an active part in all efforts to improve industrial medical service and industrial health in general.

The Board of Trustees has supported pending legislation for federal aid in the establishment of local health units with emphasis on the principle that medical care and treatment are not properly functions of public health units.

3. *Prenatal Care, Childbirth.*—Procedures established by modern medicine for advice to the prospective mother and for adequate care in childbirth should be made available to all at a price they can afford to pay. This service should be provided for those unable to pay with federal aid administered through local or state agencies if needed.

The A. M. A. has furthered these causes through various media of health education, through providing an officer of the Association to serve as a member of the Advisory Committee to the United States Children's Bureau, through cooperation with the American Academy of Pediatrics, the Kellogg Foundation, and many other organizations the programs of which point toward these same objectives, and through active participation in hearings on legislation intending to improve maternal and child health.

4. *Infant Welfare, Child Care.*—This point calls for proper health care of the child throughout infancy and early childhood, including scientific nutrition, immunization against preventable disease, and other services. Such services are best supplied through personal contact between mother and individual physician, but where needed they may be provided through infant and child welfare stations administered under local auspices and supported by tax funds.

The A. M. A. has contributed to this program through various health educational media, including those already mentioned; has supported demonstration programs for the detection of tuberculosis, immunization against diphtheria, and prevention of injuries resulting from Fourth of July celebrations; and is now undertaking a campaign with the National Safety Council to reduce preventable motor accidents. It is cooperating with the American Red Cross in extension of information on first aid and water safety, and is fully supporting the establishment of periodic physical examination of school children. The value of immunization as protection during infancy and the preschool period is emphasized and postponement of immunization measures until the time of school entrance is discouraged.

5. *Hospitals, Health and Diagnostic Centers.*—The provision of health and diagnostic centers and hospitals necessary to community needs is an essential of good medical care. Such facilities are preferably supplied by local agencies; where such facilities are not available and cannot be provided otherwise, federal aid should be given preferably under a plan requiring that need be shown and that the community prove its ability to maintain such institutions.

Through health educational media these topics received appropriate attention from the A. M. A. The Association participated in the formulation of the federal hospital survey and construction act and advocated its enactment by Congress. It has made a survey of existing health centers which will be valuable in formulating plans for construction projects under the federal law, and is undertaking to stimulate interest on the part of state and county medical societies in the act. In the hospital field generally the A. M. A. has established standards for hospitals offering internship and residency training to medical school graduates and lists annually the institutions meeting these standards in *The Journal.* In a related field the A. M. A. has created a committee to study all phases of the nursing situation and to this end has been cooperating with the various nursing agencies and holds representation on the National Nursing Council and the National Association for Practical Nurse Education. A special committee of the Board of Trustees has been established on nursing problems and this committee is associated with similar committees of the American Hospital Association and the American Nursing Association.

6. *Voluntary Prepayment Plans for Hospital and Medical Care.*—A program for medical care within the American system of individual initiative and freedom of enterprise which includes the establishment of voluntary nonprofit prepayment plans for the cost of hospitalization and voluntary nonprofit prepayment plans for medical care is advocated. The utilization of private sickness insurance plans, all of which should comply with state regulatory statutes and be acceptable to the Council on Medical Service of the American Medical Association and authoritative bodies of state medical associations, is advocated.

In undertaking to promote voluntary prepayment medical care insurance, the A. M. A. has prepared studies on the various types of prepayment plans sponsored by medical societies and has created a seal of acceptance and preliminary standards for granting the seal. During 1947 several additional states completed organization plans or programs, bringing the total to 38, and plans are being developed in ten other states and in the District of Columbia. Enrollment in various medical service plans has grown to more than 6,500,000. Many of the plans are now tending to provide broader coverage and are extending benefits to smaller groups and even to rural areas.

The A. M. A. has been instrumental in creating a national organization of medical prepayment plans, a trade association designed to work with the internal problems of prepayment plans. Realizing that a single type plan could not adequately meet the entire prepayment problem, the A. M. A. has encouraged the development of adequate prepayment insurance coverage by private insurance carriers. The A. M. A. has collaborated with various farm organizations to devise ways and means to extend medical care to rural communities through prepayment plans and otherwise it has sponsored annual conferences at which leaders of farm groups, the medical profession, and other leaders in the health field assembled to explore the problems of rural health care and has stimulated the creation of rural health committees by state and county medical societies.

The A. M. A. has assisted in helping the young physician choose his place of practice by conducting surveys through the cooperation of state and county medical societies of the medical facilities and medical personnel in every county of the United States and has made this information available to all medical schools and to all hospitals approved for internships and residencies.

Studies have been made of the medical care available to civilians during World War II and of the utilization of medical personnel by the armed forces during the war by means of questionnaires sent to thousands of physicians who remained home during the war and to all medical officers discharged before December 31, 1946. Results of these surveys will be of great value in assisting the Department of National Defense plan its medical policies.

Foreseeing a growing demand for more integration and organization in the supply of medical services, the Association is conducting a far-reaching study into the implications of group medical practice, accepting the basic premise that the organization in medical care presents problems other than those of medical care alone.

In all this the A. M. A. has contributed largely of its own funds in furthering the objective of widespread voluntary insurance against the costs of sickness and hospitalization.

7. *Veterans' Needs for Hospitals and Medical Care.*—A program for national health should include the administration of medical care, including hospitalization, to all veterans. Such medical care should be provided preferably by a physician of the veteran's choice with payment by the Veterans Administration through a plan mutually agreed upon between the state medical association and the Veterans Administration.

Over thirty-five state medical associations are working with the Veterans Administration in developing the Home Town Medical Care Program for providing free choice of physicians to the veterans. A special committee on veterans affairs has been created to study problems that may arise and to confer with representatives of the state medical associations and the Veterans Administration. A national conference on the Veterans Administration Home Town Medical Care Program was sponsored by the A. M. A. in November, 1947, and representatives of thirty-five state medical associations, various specialty groups, the Veterans Administration, and the A. M. A. participated in this conference. The Veterans Administration is concerned with the continued medical and hospital care of the men and women who served in the armed forces and is making every effort to improve the quality of medical and hospital care. To this end the Veterans Administration has sought the cooperation of the faculties of medical schools, and sixty-five of its hospitals are affiliated with medical schools and have been approved for training of resident physicians by the A. M. A. after inspection by the Council on Medical Education and Hospitals.

The A. M. A. has also aided the work of the Committee on Veterans Medical Problems of the National Research Council and has extended research in veterans hospitals.

8. *Research for Advancement of Medical Science.*—Research for the advancement of medical science is fundamental in any national health program and the inclusion of medical research in a National Science Foundation, such as proposed in pending federal legislation, is endorsed.

The A. M. A. sponsors research in a variety of ways; practically everything it does encourages research or the use of knowledge gained from research. It disseminates through its scientific publications the results of such research or lists the projects in its *Quarterly Cumulative Index Medicus*, which is the primary source of reference for scientists engaged in medical projects and arguments and which is used by readers to advance their information in specific fields.

Through councils, bureaus, and committees, the A. M. A. examines drugs, foods, devices, and preparations to determine their efficacy and develops standards for approval or disapproval of those which are placed upon the market, which standards and tests are usually picked up with slight modification by the U. S. Pharmacopeia, an official compendium under the Federal Food, Drug, and Cosmetic Act. The A. M. A. stimulates medical research through individual groups and agencies working on research problems and stimulates through education and grants fundamental research and clinical investigation in industrial medicine and surgery, industrial hygiene, sanitation, medical administration, and other phases of occupational health. The Association is sponsoring a resurvey of medical education in cooperation with the Association of American Medical Colleges. The objectives have been stated as improving medical education to meet better the overall needs of American people for the prevention of disease, restoration so far as possible to health of all those who suffer illness or injury, and the maintenance of best standards of physical and mental health of all the people; assessing the degree to which medical schools are meeting the needs of the country for physicians; promoting the advancement of knowledge in the field of medical science; and better informing the public concerning the nature, content, and purposes of medical education.

The A. M. A. has stimulated and assisted efforts toward postgraduate education of physicians and semi-annually lists these opportunities. The last listing included more than 800 courses and the total attendance in these courses during the school year 1946-1947 was 59,811, the largest number to seek such opportunities in a single year. The A. M. A. has waged a constant battle against antivivisectionism and antivaccinationism and the antiscience movement through its various educational media and has analyzed and refuted the claims of antivivisectionists in cooperation with the National Society for Medical Research. It has always cooperated with the medical schools and other research agencies in defense of the use of animals for medical research under appropriate regulations, insuring humane treatment of laboratory animals.

The Journal of the American Medical Association promotes research in articles and editorials and aids in developing funds for research.

9. *Volunteer Health Agencies, Philanthropic Funds.*—The services rendered by voluntary philanthropic health agencies such as the American Cancer Society, the National Tuberculosis Association, and the National Foundation for Infantile Paralysis, and by philanthropic agencies such as the Rockefeller Foundation have been of vast benefit to the American people and are a natural outgrowth of the system of free enterprise and democracy that prevails in the United States. Their participation in a national health program should be encouraged and the growth of such agencies when properly administered should be commended.

Progress along this line has been made by active cooperation with each of these agencies and foundations. Personnel of the A. M. A. have been or are consultants to or members of advisory committees for thirty-seven of these groups. In addition the A. M. A. has worked with representatives of the American Hospital Association, the American Public Welfare Association, and the American Public Health Association in developing a program for the chronically ill, the problems of which will undoubtedly increase as the average age of the population increases. The publication facilities and expert personnel of the A. M. A. have been lent freely and for considerable periods of time to practically every important agency in any way related to health. Most recent activities include cooperation in establishing the World Medical Association. The United States Committee of the World Medical Association has been established to extend the accomplishments of American medicine throughout the world.

10. *Health Education in Prevention of Disease.*—Fundamental to the promotion of the public health and the alleviation of illness are widespread education in the field of health and the widest possible dissemination of information regarding the prevention of disease and its treatment by authoritative agencies. Health education should be considered a necessary function of all departments of public health, medical associations, and school authorities.

The A. M. A. has pioneered in the field of health education and has continually expanded and augmented its program of health education through the media of *Hygeia, The Health Magazine*, established in 1923; radio broadcasting begun in 1925; electrical transcriptions started in 1943; health and fitness programs started in 1946; and television programs started in 1946. With the National Health Council it endorsed the principle of periodic health examinations and with the exception of commercial insurance companies has been the only national organization to continue active sponsorship and promotion of that concept.

Numerous health and fitness activities have been carried on, including the sponsorship of conferences and provision of consultants for many conferences sponsored by various state and national organizations; the editing of "Recommendations for the Health Appraisal of School Children" and assisting in preparation of a report, "Health Education," for the Joint Committee on Health Problems in Education; publication of articles on health and fitness in ten periodicals and issuing each week to some 2,000 periodicals and newspapers a release from the publications of the American Medical Association to inform the public on the progress of medicine.

The exhibits prepared by the A. M. A. are developed and lent to many other agencies. The Association has prepared some motion pictures and cooperates with other agencies in the preparation and dissemination of most pictures related to the prevention of diseases.

The A. M. A. has urged extension of education on health to schools in every grade and recognition of health education as a major subject to be assigned credit for accomplishment. The Woman's Auxiliary participates in health activities of innumerable women's clubs, parent-teacher associations, and similar agencies and extends widely the work of health education.

The Board of Trustees in approving the foregoing account of progress made by the American Medical Association in achieving the objectives of its Ten Point National Health Program recommended the following additional activities in order to bring the best possible medical care to the American people:

1. Public health and preventive medicine facilities should be increased so that the whole country is covered, thereby reducing the incidence of illness and the need for medical care. This will require joint health departments for poorly populated counties and in some instances will require federal grants-in-aid.

2. Provisions for prenatal care, childbirth, infant welfare, and child care must be expanded in some areas, again with federal aid to assist in the cost with the administration to be on a local basis.

3. Hospitals and diagnostic facilities must be expanded along the lines provided in the Hill-Burton act so that all the people will have these facilities. This will make it possible to give better care and will attract physicians to areas now lacking them. Money available under the Hill-Burton act is not being fully used because of a lack of materials and labor; furthermore the doctors, nurses, and technicians must be available to make these units function. This means that mere appropriation of money is not sufficient.

4. In considering insurance it must be remembered that so far as medical care is concerned there are four economic groups: (a) those sufficiently well off financially to care for themselves; (b) those sufficiently well off to care for themselves under all conditions except prolonged or costly illness; (c) those who can care for themselves under ordinary circumstances but who find it difficult to meet the cost of any illness; and (d) those who are wholly dependent on the public welfare for even their housing, clothing, and food. The first and last groups are cared for in a fairly adequate manner at present. The second group (b) will be satisfactorily covered as to both hospitalization and medical care by voluntary insurance, but further provision is needed for the third group (c). One solution seems to lie in Senate Bill 545, now pending in Congress, which has not been endorsed by the Association in toto but has been approved in principle. This bill provides that the federal government shall allot funds to states for expenditures under their regulations subject to federal control only as to the general plan.

Rural Health and Cooperative Hospitals.—The need of adequate medical services in the rural areas is continuously increasing over the nation. The problems which must be met in supplying this care to the rural communities of Texas where the medical profession is concerned are almost as varied and complex as any in the social and political order since the close of World War II. While acknowledging the ramifications of this problem as a whole it is better that our interests be centered at this time in that phase of rural health which relates to the cooperative hospital.

It can no longer be said that the knowledge of the majority of the inhabitants of rural communities is limited to the extent that good medical services are not recognized and appreciated. A multitude of influences, including those experiences resulting from national mobilization for war, have developed among rural inhabitants an acute awareness of the lack of facilities necessary to insure good medical care in their communities.

With some understanding of the importance of hospital and laboratory equipment to the physician, many rural communities have organized groups for the purpose of providing funds to build and purchase these facilities. In several instances, this task was undertaken by communities wholly lacking in medical care to gain the services of a physician by providing these facilities as an inducement. Groups in other communities organized to provide facilities which would enable them to combat medical fees in the neighboring towns which were believed to be too high. Other groups were organized as a part of the national farm cooperative movement with the idea of providing special medical services for members of local cooperative-owned hospitals, under the direction of a physician who would practice medicine on a guaranteed salary.

Many of these projects were begun by interested and sincere laymen who were not fully aware of the restrictions recognized by the physician in the Code of Ethics accepted by members of the American Medical Association. The difficulties encountered as a result of this lack of knowledge have been detrimental to the relationship of the medical profession to the public in some communities over the state. This is true in some instances to the extent that there is a strong doubt in the minds of many people that members of the medical profession are concerned with the health of rural inhabitants at all. Out of this doubt comes an increasing demand for medical care, even to the extent of government medicine.

The determination of these groups or communities to insure medical care for their families has led to voluntary investments which total large sums of money. Many of these investments may easily develop into a total loss to those persons concerned unless they are successful in selling their property in many instances to those who are less qualified in the practice of the "healing arts." When this becomes necessary, as an economic measure on the part of the laymen of any community, it is obvious that the quality of medical service in that community is lowered and the health of that community will be in dangerous hands.

The inclination of younger members of the medical profession to affiliate with professional groups in metropolitan areas is due in part to the recognized need for modern medical facilities. In addition, there is a sincere desire in these young physicians to practice medicine within the recognized boundaries of the ethics of their profession and without any question arising in matters affecting the quality and merit of their work among medical groups. This thought may explain in some measure the fact that younger, well trained men of medicine are lacking in sufficient number properly to staff those hospitals which are awaiting them in several communities over the state.

Cooperative-owned and in some instances community hospitals have secured the services of elderly physicians who are finding the load sufficiently heavy that the assistance of a younger and modernly trained physician is desirable.

In those instances when the patient load is too great and less modern methods of practicing medicine are all that is available to the community, the results as far as that community is concerned may be both uncomplimentary to the medical profession and dangerous for the individual patient. This feeling seems to result in a growing animosity toward those who practice medicine and offers an increasingly favorable opportunity for those who would lower the requirements for complete medical education in this state.

It is highly important, first, to the health of the people of Texas that these lower educational standards not be forced upon them or accepted by them. Second, it is important that the medical profession as a whole actively assist the people of this state in securing qualified medical services in rural areas at a cost which those areas can afford. Third, it is important to the physician who practices medicine in rural areas that he be accepted by the profession in the light of his medical knowledge and skill, and that every effort be made to assist that physician in meeting the medical needs of a community without fear or without condemnation.

A special committee was appointed by Dr. B. E. Pickett, Sr., then President of the State Medical Association of Texas, to discuss these matters and make recommendations to the governing bodies of the Association whereby the cooperative hospitals of this state might serve their purpose in rural communities and be operated on a basis acceptable to the medical profession.

This committee, consisting of Dr. Harvey Renger, Hallettsville, chairman; Dr. O. N. Mayo, Brownwood, and Dr. A. C. Scott, Temple, met in San Antonio on April 3 and 4. Meeting with the committee were representatives of many interested groups, as well as additional members of the medical profession.

Review of the factors involving rural health and cooperative hospitals emphasized the importance of the problem as it exists. A

thorough and lengthy discussion of these varied phases of the problem by all present resulted in a surprising degree of harmony between those groups represented, and upon the recommendation of the special committee from the Association, a seven point standard for cooperative-owned hospitals was unanimously accepted. These standards were ratified by the House of Delegates at the annual session just ended.

These points are in substance as follows:

1. This type of hospital should be developed through local enterprise for the purpose of operating locally.
2. The hospital should be open staffed.
3. All medical phases of the hospital must be under the control of a physician.
4. The hospital should be established on an economically sound basis, assisted in some measure by a plan similar to those prepaid hospital and medical care programs already in operation in this state.
5. A means should be worked out by which the services of a specialist can be obtained.
6. To solicit patients for a doctor's services as an inducement to membership in a cooperative hospital is improper.
7. Provided the above regulations are met, the manner of the physician's payment should be decided by mutual agreement.

It was agreed that every effort should be made on the part of each hospital to become sufficiently accredited to be acceptable under the standards of the Texas Hospital Association and fully qualified for hospital membership in the Blue Cross Hospital Plan.

In general discussion it was presented to the committee that up to that date there were fourteen cooperative hospitals in operation in Texas and that applications for a total of forty-seven had been received in the office of the Secretary of State as of January 1, 1948. It was reported that since that date applications for twelve more had been made.

The thought was expressed that the organization of community and cooperative hospitals in rural areas over the state constitutes an expression on the part of rural people of this state of a willingness to meet their own needs and that such an effort deserves more approval than destructive criticism.

Efforts are being made by representatives of various commercial insurance companies to assist hospitals in rural communities by underwriting the operating cost of the hospital through a prepayment insurance program, which is available to the membership of the cooperative and community hospital groups. The success and advisability of this plan is yet to be determined, and at the time of the annual session only one such company had made direct application for the approval of the Council on Medical Economics of the State Medical Association. It was further pointed out at the annual session that approval has not been granted by the Council on Medical Economics to any health or accident company now in operation within the state which offers insurance contracts for prepaid medical service or hospital insurance.

The World Health Organization will hold its first general assembly in Geneva, Switzerland, beginning June 24 and extending through July. Despite the fact that the United States of America was represented at conferences which in 1946 resulted in decision to establish a World Health Organization and has been a leader in the Interim Commission of eighteen nations which has been active since that time, it appears that this country will not be present at the general assembly as a member of the organization.

The Senate last year passed a bill which would have made the United States a member of the World Health Organization and which was unanimously approved by the House Committee on Foreign Affairs. However, the House Rules Committee in March tabled the bill without explanation, and the bill cannot now be brought to the floor of the House without a two-thirds vote of the committee. This action was taken in the face of approval of United States participation in the organization by the American Medical Association and almost every other national organization concerned with health and medical care, as well as approval by many lay groups concerned with international cooperation in any field.

Members of the House Rules Committee include the following: Leo E. Allen (R), Illinois, chairman; Clarence J. Brown (R), Ohio; James W. Wadsworth (R), New York; Forest A. Harness (R), Indiana; J. Edgar Chenoweth (R), Colorado; Ross Rizley (R), Oklahoma; Christian A. Herter (R), Massachusetts; Robert F. Rich (R), Pennsylvania; E. E. Cox (D), Georgia; Adolph J. Sabath (D), Illinois; Howard W. Smith (D), Virginia; and J. Bayard Clark (D), North Carolina.

The World Health Organization became a permanent agency on April 7 with the ratification of its constitution by Mexico and Byelorussia, making a total of 27 United Nations members, one more than the required number, which have ratified the WHO

constitution. Eight non-United Nations members have also ratified the constitution. The only major nation other than the United States which has failed to ratify the constitution is France, but most of the nations of Central and South America have failed to take action, apparently waiting to see what the United States will do. The WHO is the ninth specialized agency of the United Nations and the first in which the United States is not a member.

The Interim Commission of the World Health Organization has already proved the value of world cooperation in the health field. Assuming most of the tasks of the Health Organization of the old League of Nations, the war-born United Nations Relief and Rehabilitation Administration, and other international health agencies such as the Office International d'Hygiène Publique, the Interim Commission was of tremendous assistance in combatting an epidemic of cholera in Egypt during 1947, has administered an international epidemiological reporting service and work in biological standardization, has sent field missions or medical liaison officers to Hungary, Austria, China, Ethiopia, Greece, Italy, and Poland, and has awarded 203 fellowships to public health and medical specialists in war-devastated countries for study outside their native lands.

The agenda of the first assembly includes the selection of a director-general, a permanent site for the organization, and its long-range program of activities. The Interim Commission has recommended that the organization continue medical cooperation with accredited governmental and nongovernmental agencies, enlarge its epidemiological service, develop uniform standards and procedures, revise the international lists of diseases and causes of death, emphasize attacks on malaria, tuberculosis, venereal diseases, and maternal and child health, and continue the field service and medical missions sent under UNRRA to various countries. The proposed 1949 budget amounts to $6,387,995, more than twice the Interim Commission's budget for the first year of its work. Sums have tentatively been allotted for fellowships, medical literature, teaching equipment, emergency medical supplies, and advisory services and teams to demonstrate new medical and public health techniques.

It will be embarrassing if the United States does not assume its full responsibilities in the World Health Organization. On this level Russia has cooperated as she has not always cooperated in other areas of activity, and the United States should show her good faith by joining in this endeavor, which can mean much in terms of international good will. As a matter of fact, modern transportation has made the health problems of one section of the world the health problems of the entire world, and from a selfish standpoint the United States should be glad to help solve some of those problems. The cost of participating in the World Health Organization is on a per capita and income basis, and the United States would contribute only about $2,000,000, although that would be approximately 39.89 per cent of the agency's budget. Without the participation of the United States it is doubtful that the World Health Organization could carry on a program of any real scope or significance, both because of financial handicaps and because of lack of moral backing.

The medical profession of the United States has endorsed participation in the World Health Organization and has been active in establishment of a World Medical Association, an international society of physicians which it was anticipated would cooperate with the World Health Organization. Perhaps more than endorsement will be necessary to bring ratification of the WHO constitution by the United States Congress. Perhaps letters and telegrams and telephone calls to congressmen will be required. While none of the members of the House Rules Committee is from Texas, this committee now holding up action on the WHO bill may be responsive to direct communications from Texas physicians and may also be affected by requests from Texas congressmen who are advised by their constituents as to action which should be taken on the bill.

CURRENT EDITORIAL COMMENT*

The World Medical Association came into being on September 18, 1947.† After a year of preparation by an organizing committee composed of members from ten nations, the preliminary draft of a constitution and by-laws was ratified, with only minor amendments, by a General Assembly representing forty-six nations.

The objects of the Association as expressed in the constitution are:

1. To promote closer ties among the national medical organizations and among

*This department of the JOURNAL presents editorial comments on current items pertaining to the science, art and practice of medicine, contributed by members of the State Medical Association and scientists closely associated with the medical profession of Texas. Invitation is hereby extended to any member of the State Medical Association of Texas to submit such discussions for this department. The discussions should not be more than 500 words in length.

†Additional information about this meeting appears in *The Journal of the American Medical Association*, 135:516-517 (Oct. 25) 1947, and 136:185 (Jan. 17) 1948.

the doctors of the world by personal contact and all other means possible.

2. To maintain the honor and protect the interests of the medical profession.

3. To study and report on the professional problems which confront the medical profession in the different countries.

4. To organize an exchange of information on matters of interest to the medical profession.

5. To establish relations with, and to present the view of the medical profession to the World Health Organization, UNESCO and other appropriate bodies.

6. To assist all peoples of the world to attain the highest possible level of health.

7. To promote world peace.

The headquarters and general secretariat of the organization were authorized to be in North America. The office has now been established at 2 East 103rd Street, New York City. New York is also the headquarters of both the United Nations and the World Health Organization.

As soon as possible a *Bulletin* will be published regularly as a means of information to the doctors of the world.

Professor Eugene Marquis, director of the School of Medicine at Rennes, France, was elected president, and a president-elect, treasurer, honorary secretary, and council of ten members were named. The council was given authority to appoint a permanent secretary.

A series of resolutions on war crimes was adopted, and the Assembly instructed the Council to prepare a report incorporating these resolutions and taking into consideration a motion by the Netherlands that the Council prepare a report on the collaboration of medical practitioners in the preparation of means of warfare.

The Assembly placed on the agenda of the Council consideration of (1) publication of a *Bulletin,* (2) the present position of the medical profession in relation to the state, (3) standards and training of the medical profession, conditions of registration, and qualifications of specialists, (4) advertisement of cures and medicines in the lay press, and (5) unqualified and unauthorized medical practice. These investigations are all under way.

The next annual meeting will be held in Geneva, Switzerland, in September. The council has just met in New York. Dr. Louis H. Bauer, United States member of the council, was elected secretary-general. He resigned from the council, and Dr. Elmer L. Henderson, chairman of the Board of Trustees of the American Medical Association, was elected to succeed him as a member of the council.

There seems some confusion in the minds of many over the relationship of the World Health Organization and the World Medical Association. The World Health Organization is a subsidiary of the United Nations and may be said to represent the governments of the world in medicine. The World Medical Association is an independent organization and may be said to represent the doctors of the world. Close cooperation between the two is essential.

The American delegation to the World Medical Association through the generosity of the pharmaceutical industry offered to finance the Association for five years at the rate of $50,000 a year, provided certain commitments were made. These were agreed to. This sum will probably be inadequate and it is hoped that doctors will be willing to affiliate themselves with the American Committee and further help to finance the organization. It is the intention of the American Committee to help other national medical associations to help themselves. A strong national medical organization in every country is an essential, and many countries do not have such an organization.

With the present chaotic state of the world, it is hoped that this new World Medical Association may prove to be a definite step toward a better understanding among the nations of the world.

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Professional Building.

HEALTH OF ARC WELDERS

Hazards of the health of arc welders engaged in steel ship construction are negligible when adequate ventilation is provided to control the toxic fumes released, according to "Health of Arc Welders in Steel Ship Construction," Public Health Bulletin 298, recently released by the U. S. Public Health Service. The bulletin reports a study of the health of shipyard welders which was made by the Industrial Hygiene Division, U. S. Public Health Service, in cooperation with the U. S. Maritime Commission and the U. S. Navy in Maritime Commission and Navy-contract shipyards.

The study included both environmental and medical surveys. Although the ventilation was of varying effectiveness, extreme degrees of atmospheric contamination from welding fumes and gas were infrequent. Among the few clinical symptoms which might be related to occupational exposures were a respiratory symptom complex, arc welder's siderosis, lowered blood pressure, and welding burns.

ORIGINAL ARTICLES

SURGERY OF THE MAJOR BLOOD VESSELS

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Until recently, surgery of the major blood vessels has been confined chiefly to the various indications for ligation, embolectomy, and the occasional surgical management of arterial aneurysms and arteriovenous aneurysms. Our war experiences with vascular injuries have increased considerably our knowledge of and familiarity with the surgical management of lesions of the major blood vessels. During the same years some brilliant contributions have been made in the surgical management of congenital anomalies and portal hypertension, and their treatment by the formation of arterial and venous shunts. I will confine my remarks to the practical aspects and general principles of the surgical procedures involving the major blood vessels themselves and not to any discussion of the related conditions.

There are certain fundamental principles in the surgical approach to all these lesions which are essential if serious catastrophes and complications are to be avoided.

First, absolute control of the blood flow through the vessels involved must be had at all times. If the lesion is in an extremity peripheral enough to permit its use, a blood pressure cuff type of tourniquet should be employed. In all other more proximal lesions the vessels must be exposed widely enough to permit the application of arterial clamps or rubber catheter tourniquets both proximal and distal to the lesion, and to control all other branches intimately associated with the lesion. This should be done before any effort is made to approach or dissect the lesion itself. By these methods only can a serious hemorrhage be prevented.

Second, if a large artery is to be ligated in continuity for any purpose, a single ligature of strong, nonabsorbable material should be used. If the vessel is doubly ligated and a small space is left between the ligatures, the vessel between these two ligatures may slough and secondary hemorrhage occur. If the artery is to be divided, the safest method is a ligature reinforced by a suture ligature just distal to the first ligature to prevent it from being forced off the stump by the pulsations of the vessel.

The third principle is the careful and detailed management of the circulatory disturbance produced in the region supplied by the artery involved. This is accomplished chiefly by keeping the area cool, that is, never applying heat, thereby increasing the local metabolism and the tissue demand for greater circulation; by administering antispasmodics; and by a preliminary sympathectomy or postoperative sympathetic block, if indicated. With these fundamentals in mind, more specific surgical procedures themselves can be considered.

Read before the Section on Surgery, State Medical Association of Texas, Annual Session, Dallas, May 6, 1947.

ARTERIAL EMBOLISM

Probably the simplest condition requiring surgical intervention is peripheral arterial embolism. Removal of an arterial embolism must be accomplished in most cases to save the extremity involved. Successful restoration of the circulation depends on an early diagnosis and immediate embolectomy. The importance of the time element is stated by Linton in an analysis of the cases at the Massachusetts General Hospital: within ten hours 40 to 60 per cent saved, after ten hours 16 to 20 per cent saved, and after thirty hours none saved.

The changes that take place in the entire arterial bed beyond the site of lodgement of the embolus are of extreme importance in any treatment for the restoration of an adequate circulation in the extremity involved. There is marked spasm of the major vessel itself distal to the embolus, and the vasoconstriction of the entire collateral bed as well, as is seen at operation. The time element is of great importance because of the development of a secondary thrombosis in the entire distribution of the artery beyond the embolism. It is essential, therefore, that the classical symptoms and signs of sudden pain, coldness, blanching, and the loss of motor and sensory functions be given immediate consideration, and a correct diagnosis promptly made and proper treatment started at once. If the physician keeps in mind the common levels for an embolus to lodge, that is, at the various bifurcations such as the bifurcation of the aorta, the common iliacs, the femorals, the popliteals, and so forth, it is fairly simple on the basis of the extent of the physical findings to localize the embolus and to carry out an immediate embolectomy. It is not adequate merely to open the artery and remove the obvious embolus; an attempt must be made to remove the distal thrombus by suction and to establish free backflow of blood and a return of normal distant arterial pulsations.

If extensive and well-established thrombosis has already taken place, there is little likelihood that the extremity can be saved.

Supportive and antispasmodic measures should likewise be instigated. Papaverine, sympathetic block, intermittent venous occlusion or negative-positive pressure with the Pavex machine and anticoagulants should be used to combat the extensive vasospasm and prevent further formation of secondary thrombosis.

ANEURYSMS

Fortunately, long before the war Matas, Bickham, Reid, and others worked out the surgical principles involved in the management of arterial aneurysms and arteriovenous aneurysms, and many surgeons had had some experience with these lesions. Everyone is familiar with the simple saccular and dissecting types of arterial aneurysms, as well as the congenital and traumatic arteriovenous aneurysms, and the hazards of such lesions. The intrasaccular method of suture (endoaneurysmorrhaphy) of Matas and the transvenous suture of the fistulous opening between the artery and the vein (the Matas-Bickham method) in the surgical treatment of arteriovenous aneurysms are valuable procedures when specifically indicated. When generally applied to these lesions, especially to extensive war wounds, extremely difficult technical situations were encountered, and complications, that is, secondary hemorrhage, thrombosis, and recurrence, followed these procedures frequently. With increasing experience, it became apparent that it was possible to carry out quadruple ligations and excisions of these lesions in almost any major artery in the body, with the exception, perhaps, of the carotid and popliteal arteries, the former because of the high incidence of cerebral damage and the latter because of the well-recognized poor collateral circulation around the knee and the high incidence of gangrene of the foot following popliteal ligation. In these particular arteries, aneurysmorrhaphy or suture of the artery is indicated. In all other arteries, with the proper precautions taken to combat vasospasm and secondary thrombosis, an aneurysm or an arteriovenous aneurysm can be excised and the tissues in the area supplied by the vessel will survive. This is made possible by the development of an adequate collateral arterial circulation in association with any long-standing arterial lesion.

Before the war I excised bilateral femoral aneurysms in a patient after preliminary lumbar sympathectomies were performed with excellent result and without significant disturbance of the circulation in the lower extremity. In addition, I had operated on patients with various types of arteriovenous aneurysms, both congenital and traumatic, which involved regions in the upper and lower extremities and in the neck. All the patients were treated by excision and good results were obtained. The experience gained with these cases proved invaluable in my later war experience.

In the care of large numbers of major casualties among Marine and Naval personnel from the Gilberts, the Marshalls, the Marianas, Iwo Jima, and Okinawa campaigns, many complicated and interesting types of injuries were encountered. Among the most serious injuries were those of the major arteries, the so-called false aneurysms and the arteriovenous aneurysms, or a combination of both. Technically, the surgical management of some of the more proximal arterial injuries was undoubtedly one of the most hazardous and most difficult operations in war surgery. As already stated, the management of those in the extremities distal enough so that a tourniquet could be used and direct dissection done in a bloodless field was relatively simple. Injuries located in the groin, abdomen, neck, shoulder, and chest, however, required an entirely different approach and surgical management if patients were to survive operation. This was particularly true of arterial injuries in the thorax with its close anatomic relationships and difficulty in obtaining wide and easy exposure.

The general principle of approach to this type of injury was to avoid entering the false aneurysms at any point, or the extensive reaction and infiltration about any one of these varieties of arterial and venous injuries, before the major artery and vein, both proximal and distal to the injury and all significant branches entering into the section of injured vessel, were fully controlled. This was accomplished by complete and accurate exposure of these vessels, proximal and distal to the infiltrated area of the false aneurysm, and control of the flow through these vessels by tension on small, soft catheters placed around these vessels. The vessels were then further exposed until, finally, the false aneurysmal sac was entered and the actual injury in the artery visualized. Even with full control of the injured major artery and vein both proximal and distal to this area, and all major branches entering this area, there was still at times a rapid flow of blood from the opening in the sac, requiring direct pressure of the finger for control. The artery and vein were then ligated carefully both distal and proximal to the injury, and the injured areas were excised, carefully preserving all collateral circulation and branches which did not immediately enter the area excised. It became my practice to

excise these lesions rather than to attempt any type of plastic procedure, since I was able to do this without complications and the extent of the tissue damage made it extremely hazardous to attempt any type of conservative procedure.

Col. Daniel C. Elkin reported on a tremendous experience in vascular surgery at the Ashford General Hospital, which was designated by the Army as its first center for vascular surgery. He reported brilliant results in a large series of cases, treating the majority by quadruple ligation and excision, although in certain specific cases the Matas principle of intrasaccular suture or transvenous suture was carried out. Likewise, Col. Norman E. Freeman reported the results from the second Army vascular center at DeWitt General Hospital. The majority of these patients were treated by the more conservative measures of suture and intrasaccular repair, also with excellent results, but with a probable higher incidence of thrombosis and recurrence than in the lesions that were treated by radical excision.

While this extensive surgical experience with serious and complicated vascular lesions was taking place in the service, brilliant developments were being made at home in conjunction with congenital lesions of the heart and great vessels. The mounting series of successful operative cases in the medical centers throughout the country attests the therapeutic value and the technical soundness of these procedures.

PATENT DUCTUS ARTERIOSUS

The serious congenital lesion patent ductus arteriosus usually causes death at an early age from congestive heart failure or subacute bacterial endocarditis. Both the damaging effect on the heart and the predisposition to endocarditis can now be eliminated by accurate division of this persistent ductus. The technique for complete division of the ductus arteriosus which was developed and perfected by Gross has supplanted the original uncertain ligation methods. The clinical picture is easily recognized. These underdeveloped patients show dyspnea and cyanosis on exertion. There is a characteristic, machinery-like to-and-fro murmur and palpable thrill over the pulmonic area and precordium. The heart is enlarged and there may be signs of decompensation. Roentgenograms of the chest show an enlarged heart, prominent pulmonary conus, small aortic knob and increased hilar markings. If complicated by subacute bacterial endocarditis, there will be intermittent fever, anemia, and positive blood cultures. The presence of subacute bacterial endocarditis is the most urgent indication of all for division of the ductus.

One of our patients had subacute bacterial endocarditis at the time operation was performed. This patient,[1] aged 21, was operated on in June, 1945, and was cured of her endocarditis (blood culture, alpha hemolytic streptococci) and also of the cardiac enlargement by division of the ductus and by administration of large doses of penicillin. She became clinically well, the blood cultures were negative, and the roentgenogram of the chest showed return of heart to normal size, the pulmonary conus was smaller and the density of the hilar markings receded.

The operative technique used is that described by Gross in which the ductus is exposed through an anterior approach, meticulously mobilized, surgically divided, and the ends of the transected ductus closed.

COARCTATION OF AORTA

The second congenital cardiovascular defect in which surgical relief can now be employed in selected cases is coarctation of the aorta. There are two types: (1) the infantile type, with atresia of the greater part of the arch, which apparently is incompatible with life and in which death occurs in early infancy, and (2) the so-called adult type, in which there is a well-localized constriction of the aorta at the level of the ductus arteriosus. The stricture in the adult type of coarctation of the aorta is believed to be the result of progression of the obliterating process in the ductus, extending to the aorta. This lesion is extremely interesting because it is compatible with life and reasonably good health until one or more of the common sequelae and complications develop. This usually occurs in early adult life. The average age at death is about 35 years. Death is caused by hypertension, arteriosclerosis, heart failure, rupture of the aorta, cerebral hemorrhage, or bacterial endocarditis.

Clinically, the classical form is easily recognized by the loud systolic murmur transmitted to the intrascapular area and the characteristically lowered blood pressure in the legs as compared with that in the arms. Usually there is clinical evidence of extensive collateral circulation, and the characteristic notching of the ribs by roentgenologic examination resulting from pressure of the greatly developed intercostal arteries is outstanding evidence of this collateral circulation. Marked hypertension and extensive arteriosclerotic changes proximal to the atresia produce rapid deterioration of the patient at an early age. It is therefore imperative that early operation, preferably in childhood, be carried out before such changes and the com-

plications develop. Likewise, although there is little dilatation of the aorta proximal to the stricture, it becomes progressively more thin-walled and friable, thereby increasing considerably the technical difficulty and hazards in mobilization and anastomosis after the strictured area is resected.

There are two surgical approaches to this problem. Blalock and Park carried out their operation on the principle of a shunt around the coarctation by performing an anastomosis between the proximal divided end of the left subclavian artery and the side of the aorta distal to the coarctation. This procedure may be of value in the rare case in which there is an elongated atresia and resection of the stenotic area and end-to-end anastomosis of the aorta is not technically possible. The latter procedure, developed independently by Crafoord, and by Gross and Hufnagel, is the procedure of choice. However, because of the serious cardiovascular complications that are present when the symptoms suddenly develop and rapid general deterioration takes place, as well as the technical difficulties at this stage, this procedure should be attempted only in children or in carefully selected patients of adult age to avoid a high operative mortality.

PULMONARY STENOSIS

The third congenital defect that lends itself to surgical treatment is pulmonary stenosis or atresia. Although pulmonary stenosis is a component of a variety of congenital cardiovascular defects, it is most commonly found in the tetralogy of Fallot, that is pulmonic stenosis, interventricular septal defect, dextraposition of the aorta with overriding of this septal defect, and right ventricular hypertrophy. Since the most prominent clinical feature is the marked cyanosis and although other physiologic factors are involved, it was the opinion of Taussig and Blalock that pulmonary stenosis could be benefited by a surgical procedure that would increase the volume of blood reaching the lungs.

In keeping with this theory, Blalock experimented with various possibilities and at the same time settled some serious unknown factors, such as that these deeply cyanotic patients with such a narrow cardiopulmonary balance tolerate a general anesthetic and a major surgical procedure, and also tolerate an open thorax and temporary occlusion of one of the pulmonary arteries during the anastomosis. He also determined whether there would be any serious impairment of the upper extremity by division of the subclavian artery. He proved that all of these factors did not preclude surgical intervention, and he finally developed his memorable operation of anastomosis of one of the branches of the aorta and one of the pulmonary arteries. He believed that a direct anastomosis between the aorta and pulmonary artery or the creation of an artificial ductus arteriosus would not be feasible since occlusion of the aorta for the time required for this anastomosis would be followed by permanent paralysis of the lower extremities. More recently, Potts, Smith, and Gibson have developed a technique whereby an aortopulmonary fistula can be established for pulmonic stenosis, which overcomes this danger of paralysis of the lower extremities. This is accomplished by means of an ingenious clamp which encircles the aorta but does not fully occlude its lumen; it effectively isolates sufficient side wall to carry out a satisfactory anastomosis with the pulmonary artery.

I have employed Blalock's technique, utilizing either the right or left subclavian artery for the anastomosis with the corresponding pulmonary artery. Here again it is impossible to overemphasize the importance of recognizing these lesions and carrying out these procedures, if indicated, in early childhood, long before the profound physiologic changes take place in the cardiovascular system and lungs that become irreversible in time. Even though such patients can be brought through the operation successfully, they may receive no striking benefit and there will be a high operative mortality.

VENOUS ASPECTS

No discussion of this subject would be complete without reference to the venous aspects of vascular surgery. One well-recognized principle is the necessity for ligation of any major vein if the artery is ligated for any reason, such as for excision of an aneurysm. The accompanying vein should also be ligated in embolectomy. I would like briefly to present my present opinion regarding the status of ligation in the prevention of embolus. I am in agreement with the work of Allen, Linton, and associates at the Massachusetts General Hospital that anticoagulants are indicated in the younger group but that femoral vein ligation is indicated at the time of any major operation on patients 60 years or older, since patients in this latter group do not tolerate anticoagulants well.

Of equally great importance is the present recognition and development of the technical aspects of venous shunt operations for the relief of the symptoms of portal hypertension, that is, serious and often fatal gastrointestinal hemorrhages and ascites. I have not the time to discuss the brilliant work of

Whipple, McKenzie, and their co-workers on the causes of portal hypertension. Suffice it to say that on the basis of this work there are two well recognized types, the intrahepatic and extrahepatic portal obstructions. These can be differentiated clinically by demonstrating impaired hepatic function by the various improved tests now available in the intrahepatic type. Gastro-intestinal hemorrhage, ascites, or both, or the classical clinical syndrome of Banti's disease with its splenomegaly, anemia, leukopenia, and thrombocytopenia, are the primary indications for this operation.

At operation it is extremely important to take the venous pressures in the splenic vein, in the mesenteric veins, and in the coronary veins of the stomach to determine the region of the block. The normal portal pressure is approximately 8 to 13 mm. of mercury or 60 to 104 mm. of water. In portal hypertension this pressure may vary from 20 to 40 mm. of mercury or 260 to 500 mm. of water. If there is hypertension in the splenic vein and not in the inferior mesenteric vein, there is splenic vein block. Since the splenic vein carries about 40 per cent of the portal circulation, splenectomy is effective in stopping the gastro-intestinal hemorrhages, provided the coronary vein comes off proximal to the obstruction. Splenectomy and splenorenal anastomosis, end-to-side, either by the suture method or by the nonsuture method, using the vitallium tube of Blakemore and Lord, are indicated. If intrahepatic block or extrahepatic portal block high in the liver fissure is present, a portacaval anastomosis or Eck fistula can be carried out by the same techniques. The nonsuture method may be preferable because it requires considerably less time, is technically less difficult, and there is perfect intimal coaptation without foreign body contact to increase the possibility of thrombosis. There is also less danger of serious kidney damage which may result from prolonged occlusion of the vena cava at the level of the renal veins during a suture technique. In my experience, probably the greatest factor in the failure of surgery is the finding of such massive venous sinuses in the region of the portal and splenic veins that it is impossible to dissect out the major trunk without encountering uncontrollable bleeding, thus ending in failure to complete a shunt operation.

These are in brief our present day surgical problems of the major blood vessels. They are all brilliant examples of the application of the basic principles of vascular surgery. They entail intensive research in the physiology of the complex pathologic conditions involved, tremendous insight in the development of the various techniques described, and great courage and skill in their execution.

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ROENTGEN THERAPY FOR RINGWORM

The most stubborn cases of ringworm of the scalp, which reached epidemic proportions among school children in several eastern cities during the last few years, are best treated by roentgen rays, according to Drs. Eugene P. Pendergrass and J. Francis Mahoney, of Philadelphia, writing in the April issue of *Radiology*.

Ringworm of the scalp is first noticed as a red, itchy patch on the scalp. The patch, covered with white or grayish scales, slowly increases in diameter. The involved hair shafts become dry and brittle and, in the course of a few days or weeks, many of these hairs break off, leaving a partially bald area studded with broken hairs. The disease can be diagnosed by examining the scalp under ultraviolet light.

Appropriate roentgen treatment gives a high cure rate, the doctors write. The treatment can be performed at one sitting with the entire procedure not requiring more than half an hour. The patient becomes practically noninfectious at the end of three weeks. After this period, the entire scalp will be depilated and, for practical purposes, there is no longer any danger of contagion. The possible dangers of permanent depilation are rare. The child is completely bald for about six weeks, after which a fine, fuzzy growth of new hair makes its appearance. Normal oiliness is regained within one year after treatment. The hair is usually unchanged in color or may be slightly darker when it has regrown.

SOME IMPORTANT CONSIDERATIONS IN THE DIAGNOSIS AND TREATMENT OF PERIPHERAL VASCULAR DISEASE

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As a result of the progress made during the past decade in the treatment of peripheral vascular disease, particularly by the operation of sympathectomy, it becomes increasingly important that all physicians appreciate what can be accomplished in treating such diseases. Physicians must have a clear concept of vascular disorders, their pathology, normal and pathologic physiology, symptomatology, and nonoperative method of management. They should also know approximately what response to expect with nonoperative treatment so that in the event it proves inadequate, they can avoid unnecessary time loss in employing sympathectomy when indicated. This, of course, implies a thorough understanding of the effects of this operation and the diagnostic means of anticipating its effectiveness, as well as the contraindications.

NORMAL AND PATHOLOGIC VASCULAR PHYSIOLOGY

It should be stressed that the peripheral vascular system along with its highly integrated components, the somatic nerves, the sympathetic nerves and the sweat glands, functions as a unit which enables a person to adapt himself with amazing facility to changing environmental conditions, posture, and muscular demands, whether of the ordinary or the emergency variety, as well as various emotional states.

Several of the specific vascular reflexes involved in this adaptability might be reviewed: The relatively simple reflex controlling blood pressure with assumption of the erect position originates in the veins which are distended upon the assumption of this position and follows a path illustrated in figure 1 through the sensory nerves, spinal cord, lumbar sympathetic ganglion, and somatic nerve to the arterial side of the vascular system where there is produced the required degree of vascular constriction. It is a rather slight modification of this normal reflex which explains the vasospastic phenomenon observed in diseases involving the venous side of the system. In this instance the reflex originates in a diseased segment of vein and, unlike the normal reflex arc, is identical with that just described.

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Another common physiologic reflex is the vasoconstrictor response to environmental cold. Here the reflex originates in special sensory nerve ends in the skin and from there on it follows a course similar to that in the reflexes described above. Here, likewise, there may be pathologic variations in that the threshold for vasospasm may be abnormally low. This distortion through psychogenic and hormonal mechanisms is the probable explanation of the idiopathic or primary vasospastic disorders (Reynaud's syndrome).

As indicated in figure 1, the terminal arteriole, the capillary, and the venule (the A. C. V. segment) function as a unit coordinating with the lymphatic capillary in meeting the trophic requirements of the tissue cells. As emphasized previously, this is normally under control of the sympathetic nerves. The lymphatic flow is influenced primarily by muscular contraction, body position, and arteriolar pulsation. The function of the sweat glands is to cool by evaporation, and this process is also under control of the sympathetic nerves.

The common factors causing peripheral vascular dilation are heat by direct action, posture by indirectly eliminating the vasoconstrictor reflex, reflex heat, and sleep by directly eliminating postural and emotional vasoconstrictor factors. The most common agents of peripheral vascular constriction are emotion, especially fear and anger, cold by direct action, posture, reflexes of cold vascular and periarticular origin, drugs, especially the alkaloids of tobacco, hypometabolism (thyroid and hepatic hypofunction), and hypoglycemia.

The function of the sweat glands is important in that excessive cooling may produce a reflex vasospasm and excessive secretion often leads to devitalization of the skin with fissuring and subsequent infection.

ROLE OF SYMPATHETIC NERVOUS SYSTEM

For purposes of discussion, the effects of lumbar sympathetic hyperactivity on the various components will be considered separately, but it is important to keep in mind the fact that these units functionally are intimately interrelated. In the A. C. V. segment as a result of the vasospasm there is a decrease in the volume of flow and pulsation. The lymphatic flow is likewise decreased in volume. The hyperhidrosis is a reflection of increased activity on the part of the sweat glands.

Along with wide clinical experience, diagnostic sympathetic block is of the utmost value in selecting patients for operation. The

following evidence may be considered as attesting to the probable effectiveness of lumbar sympathectomy: increased muscle stamina as emphasized by improved walking ability, relief of ischemic pain, increase in skin temperature, increased venous filling in the horizontal plane, acceleration of capillary filling in the horizontal plane, correction of ischemic color changes, and increased pulsations as recorded by the plethysmograph.

Thorough knowledge of the effects of lumbar sympathectomy is of inestimable value in making accurate prognoses. In the A. C. V. segment there is a prevention of spasm in response to all of the factors

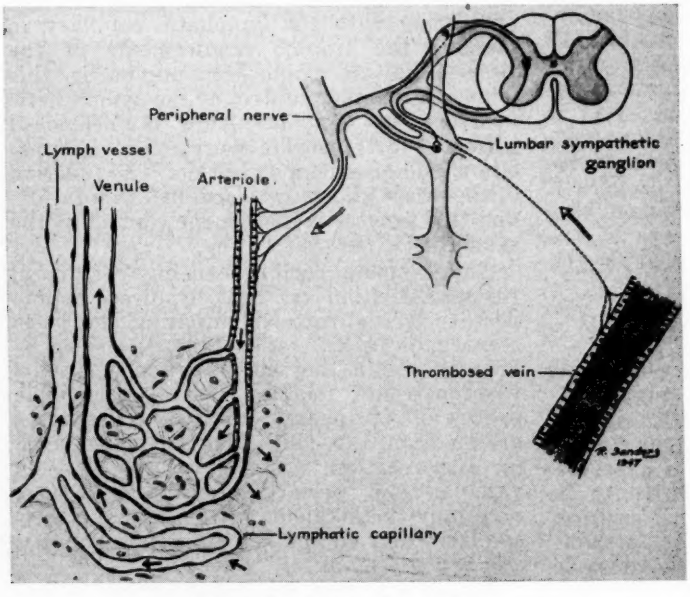

Fig. 1. Diagram of a reflex vasospasm.

previously enumerated with the exception of the direct contact with cold, and even in this instance the sympathectomy is of value in that it promotes a more rapid return of the vessels to normal caliber following the removal of the cold. The results of the vascular exercises are enhanced as a result of mitigation of the normal venous reflex. Apparently lymphatic flow is likewise accelerated. The loss of function by the sweat glands results in the elimination of vasospasm due to this cooling mechanism. The lack of moisture is likewise important in precluding or controlling infections.

Principally the contraindications to sympathectomy are associated diseases which would preclude any major abdominal operation and the lack of sufficient sympathetic hyperactivity to justify the procedure.

Sympathectomy carries a good prognosis when the vasospastic component is great and operation is done relatively early in the disease process but carries a poor prognosis in elderly patients, those with minimal vasospasm, and in operations done relatively late in the disease.

REYNAUD'S SYNDROME

By definition idiopathic (primary) vasospastic peripheral vascular disorders (Reynaud's syndrome) are abnormal states of peripheral vasospasm without demonstrable vascular pathologic conditions and usually associated with hyperhidrosis.

The vasospasm and hyperhidrosis are responsible for the characteristic symptoms and signs: coldness of extremities, ischemic color changes, pain and tenderness, edema, and in late cases distal, trophic changes.

These patients can almost invariably be successfully managed by nonoperative measures which will be referred to hereafter as the nonoperative measures to control vasospasm: psychic or emotional control, avoidance of chilling of the trunk and extremities, avoidance of fatigue and tobacco, regulated exercise to a point short of fatigue, improvement of hepatic function, vitamin A in large doses, and ultraviolet irradiation. Sleeping precautions designed to prevent chilling consist in the use of special pajamas, sleeping socks, and external heat. The diet should be high in protein content and free of sweets. Vasodilator drugs such as tetra ethyl ammonium salts while promising are still in the process of clinical investigation and should history repeat itself will prove to be of limited value. Thoracic sympathectomy should be reserved for unquestionable failure of adequate nonoperative treatment and is highly effective when the preganglionic operation is performed.

ARTERIOSCLEROTIC PERIPHERAL VASCULAR DISEASE

By definition arteriosclerotic peripheral vascular disease is a medial sclerosis (of Monckeburg) with destruction of the elastic lamina and fibrosis of and occasional calcification of the tunica media.

The pathologic physiology involves the permanent decrease in arterial flow as a result of the sclerotic process in addition to the superimposed and transient decrease in flow represented by vasospasm. The reduced arterial flow although compatible with comfort part of the time is inadequate when the tissue demands are increased as a result of muscular activity, and the blood supply fails to provide for the physiologic demands when the supervening arterial spasm is severe. The rationale of treatment in the prevention of this vasospasm is dependent on the reduction of local tissue demands so as to be commensurate with the available supply.

The symptoms and signs are mainly the result of ischemia: pain, color changes, coldness, and trophic changes are observed in various degrees. There is also diminution or absence of the peripheral pulses. The diagnostic measures include demonstration of calcification by roentgenograms, visualization of the arterial tree distal to the aorta, and assaying the role of vasospasm. This latter estimate is arrived at on the basis of facts obtained in the history and on physical examination in addition to the results obtained on diagnostic sympathetic blocking.

Simulating diseases which should be excluded are the idiopathic, or primary, vasospastic phenomena, thrombosis of the aorta and distal arterial tree, and thromboangiitis obliterans. The treatment consists of the nonoperative measures designed to counteract vasospasm and improve the collateral circulation along with frequent elevation of the feet to hip level, and, in certain instances, the use of tetra ethyl ammonium salts. Special care should be taken of the feet and legs including infrequent bathing, lubrication of the skin, maintenance of dryness, special care of the nails, and irradication of fungus infection. Sympathectomy is employed if indicated.

BUERGER'S SYNDROME

By definition thrombo-angiitis obliterans (Buerger's syndrome) is a poorly understood inflammatory process of unknown etiology involving the vessels of the extremities. It characteristically involves young men.

Histologically the picture is that of either an acute or chronic inflammatory process or the intermediate stage with no distinguishing features. The symptoms and signs in the acute stage are not remarkable; there seldom is more than a transient redness and tenderness over the involved vessel. In the chronic stage the clinical picture is similar to that of arteriosclerotic peripheral vascular disease.

The diagnosis is suggested clinically by the associated involvement of the vessels in the upper extremities, especially in young men. Histologically there is evidence of an inflammatory reaction rather than the degenerative process observed in arteriosclerosis.

The treatment consists of a triad: an effort to increase inherent resistance to infection, nonoperative measures to counteract vasospasm, and sympathectomy in selected cases.

POSTTRAUMATIC PERIPHERAL VASCULAR DISEASE

Posttraumatic peripheral vascular diseases are reflex vasospastic phenomena with the impulse originating in traumatized vascular or periarticular tissue. The pathologic physiology, symptoms, and signs are much the same as in the idiopathic (primary) vasospastic states.

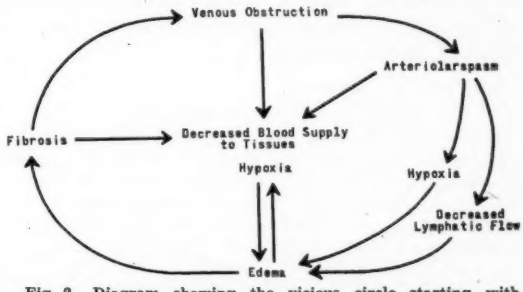

Fig. 2. Diagram showing the vicious circle starting with thrombotic venous obstruction and the vascular reflex originating in the diseased segment of vein.

The treatment consists of excision of the traumatized tissue when this is feasible, nonoperative measures to control vasospasm, and sympathectomy in selected cases.

POSTTHROMBOTIC SYNDROME

A postthrombotic syndrome results from thrombosis of the deep venous system and is characterized by various groupings of the following symptoms and signs: pain due to hypoxia and tension, tenderness due to tension and inflammation, edema due to mechanical obstruction of the blood vessels and lymphatics along with sympathetic hyperactivity, coldness and abnormal coloring due to the decreased blood supply, hyperhidrosis as a result of sympathetic hyperactivity, varices, dermatitis, cellulitis, trophic ulcers, and gangrene.

The pathologic physiology is depicted in figure 2, representing the vicious circle which is produced.

Characteristically patients with this syndrome are prone to develop subsequent bouts of thrombosis. The ulcers pass through

cycles of closing and reopening associated with the development of a surrounding zone of fibrosis.

The treatment consists of the prophylaxis and treatment of subsequent bouts of thrombosis, nonoperative measures to counteract vasospasm, excision of ulcers and fibrous tissue with skin grafting, and sympathectomy in selected cases.

SUMMARY

There has been presented a resume of the more important aspects of the clinical pictures, normal and pathologic physiology, pathology, and diagnostic measures in so far as they contribute to the treatment and prognosis of the more common types of peripheral vascular diseases involving the arterial side of the system. Special consideration is given to the role of sympathectomy in the management of these diseases.

Medical Arts Building.

ABSTRACT OF DISCUSSION

Dr. J. W. Winter, San Antonio: Dr. Nelson's treatise is excellent. Therapeutic, diagnostic, and prognostic sympathetic blocks may be used in many conditions. Best results from therapeutic blocks are confined to acute disturbances, whether the cause is thrombophlebitis, injury, or something else.

Direct blocking of the sympathetic ganglia with procaine is customary. One or several blocks may be curative. The use of bromsalizol or intracaine in oil will avoid the necessity of doing blocks too frequently. Alcohol can be used for further prolongation but should not be routinely substituted for surgery.

Failure to prove the sympathetic disturbance functional by lumbar sympathetic block should be followed by epidural or spinal block before surgery is decided against. Prognostic blocks should be done under standard temperature with electric thermometer readings.

The posterior approach is better for stellate ganglion block. As a prognostic block for the upper extremity it is preferable to block second and third thoracic ganglia to see if a sufficient warming can be obtained to warrant surgery without producing a Horner's syndrome.

Smithwick and White's idea of doing preganglionic sympathectomy in the thoracic area and putting silk cylinders over the ganglia is a revolutionary advance, because previously thoracic sympathectomy gave poor results, especially in Reynaud's disease.

Systemic drugs still in the experimental state may prove efficacious for therapy in acute cases, but it is hoped that they will not be used in competition with surgery in chronic disease.

Sympathetic blocks in acute thrombophlebitis should be used whether ligation is anticipated or has been executed.

Every unknown case of tuberculosis presents a double threat—to the individual who may be losing his own health and to relatives and associates who may catch the disease from him.—Health Briefs, Feb., 1947.

TREATMENT OF PULMONARY EMBOLISM BY LIGATION OF SUPERFICIAL FEMORAL VEINS

Report of Seven Cases

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Virchow in 1846 first described the pathology of pulmonary embolism and wrote an essay on the fact that the thrombi originated in the veins of the pelvis and lower extremities. He proved experimentally that solid masses could be carried by the blood through the veins to the lungs. Denecke[6] in 1929 first advanced the theory that pulmonary embolism came from the deep veins of the calves of the legs and of the feet. Rossle,[18] in extensive dissections of leg veins, found 27.1 per cent of 321 persons over 20 years of age harbored thrombi in the veins of the calf. On December 19, 1929, Dr. John Homans[9, 11] performed the first ligation of the superficial femoral vein for thrombosis of the deep calf veins as a measure to prevent pulmonary embolism.

Thus began the surgical treatment of pulmonary embolism, which has found support among many investigators, notably Allen, Linton, and Donaldson,[1] O'Neill,[17] Faxon, Ochsner,[16] and DeTakats.[7] Most of the progress made by these physicians has been concerned with the site of the ligation rather than with the theories to explain pulmonary emboli.

To show the importance of pulmonary embolism, a brief statistical review is in order. McCartney,[13] in a review of over 25,771 autopsies done by the Department of Pathology, University of Minnesota, which reported 16 per cent of the total number of deaths in Minneapolis and surrounding territory, found 689 deaths, or 2.67 per cent, to be due to pulmonary embolism. There were 4,070 postoperative deaths, of which 471 cases, or 11.5 per cent, showed evidence of thromboembolism and in 216, or 5.3 per cent, pulmonary embolism was considered as the cause of death.

In general, the incidence of fatal embolism in long series of cases is about 5 per cent. It is estimated that 52 per cent of all persons above the age of 40 harbor thrombi in their leg veins.

Henderson,[8] in 1927, reported that the source of fatal pulmonary emboli in 86 per cent of 189 deaths was direct or indirect tributaries of the lower third of the vena cava.

Read before the Section on Surgery, State Medical Association of Texas, Annual Session, Dallas, May 6, 1947.

PATHOLOGY

There are, according to Oschner, two main types of thrombosis: phlebothrombosis, in which the thrombus is red, fresh, and soft, propagates rapidly from its point of attachment, and breaks off easily because of the insecurity of its attachment; and, thrombophlebitis, in which the thrombus is firmly attached to a thickened vein, well surrounded by an inflammatory area and from which detachment rarely occurs. Platelet thrombi attach themselves to the intima of the vein, and from this nidus fibrin, leukocytes, erythrocytes, and other elements form the long tail of the thrombus.

The three essential factors in the production of a thrombus are slowing of the current of blood, endothelial injury, and changes in the chemical composition of the blood. To this may be added a fourth, namely, pressure points of muscles and ligaments in certain persons, particularly during periods of rest. Efficient venous return from the deep veins of the lower extremities depends upon the circulation time, directly related to the cardiac status, the compressive action of muscular contraction on veins, absence of mechanical obstruction, and maintenance of normal negative pressure within the thorax and abdomen. It is obvious, therefore, that the type of person who usually develops pulmonary embolism is beyond the age of 40, is forced to spend time at rest in bed, and, in addition, has either recognized or unrecognized venous damage. Also, cardiac, tuberculous, and other chronically ill patients develop this condition. Persons with a history of such conditions become excellent candidates for recurrence. Types of cases most likely to develop embolic phenomena, in addition to the bedridden cardiac patient, include certain types of surgical patients, particularly those who have had pelvic surgery, malignancy, amputation of the thigh, and hernioplasties. Other operations, such as prostatic resection and colon resection, are also particularly likely to result in embolism.

The fundamental factor in thrombosis is probably not discovered as yet. It is my opinion that the increased coagulability of the blood and the increased blood viscosity are reflections of an altered relationship between blood clotting elements and anticoagulating elements. This is further suggested by the rarity of coronary thrombosis in women who still menstruate, which could indicate a possible escape valve for this coagulating factor.

Additional precipitating factors may be the use of Fowler's position postoperatively, tight abdominal binders, and vasospasm in the lower extremities due to tobacco, trauma, or tissue injury. Ochsner[15] and DeBakey have shown that hypoproteinemia, hyperglobulinemia, and an increase in the calcium and fibrinogen content of the blood may occur postoperatively, along with an increase in thrombocytes, which facilitates phlebothrombosis.

SYMPTOMATOLOGY OF PULMONARY EMBOLISM

It is important in thinking about this process that the physician avoid preconceived notions about embolism or he will continue to overlook this frequently missed diagnosis. The symptoms depend on the size, number, and rapidity of release of the emboli and the size of the lumen of the pulmonary vessel into which they are swept. The symptoms also depend in some measure upon whether or not the foramen ovale is or is not patent. Cohnheim first described paradoxical embolism, which occurs only in the presence of an abnormal opening between the two sides of the heart.

For the most part, the symptoms of pulmonary embolism consist of sudden chest pain, dyspnea, sudden rise in pulse rate, attacks of paroxysmal tachycardia, continued or intermittent presence of small amounts of fever of unknown origin, unexplained hemoptysis, and sudden unexplained feelings of anxiety. Sudden abdominal complaints have been well enumerated by Middleton[14] in his review of the subject at the University of Wisconsin. The diagnosis of pulmonary embolism is made possible only by keeping the condition in mind.

Homans[10] regarded slight leg enlargement, local deep tenderness on palpation, minor increases in muscle tone, and irritability as ascertained by daily examination as the most important early diagnostic signs of phlebothrombosis. Veal and Hussey[19] stressed the fact that localized tenderness over the veins of the leg is an early sign of phlebothrombosis. They also emphasized that emboli may occur from a day to four months postoperatively. Homans emphasized cyanosis of the feet and legs as being indicative of deep venous thrombosis. Among others, Aycock and Hendrick[3] suggested careful palpation of the plantar surfaces of the feet twice daily in patients suspected of having thrombosis in an effort to find tender spots. They expressed the belief that phlebothrombosis begins in this location quite frequently. Allen[2] and his coworkers candidly stated that pleuritic pain is the first symptom in 41 per cent of cases, and Allen, Linton, and Donaldson stated that 96 per cent of cases occur in the lower lobe of the lungs.

Roentgenograms are, as a rule, disappointing if the radiologist is expected to diagnose

pulmonary embolism from a classic descriptive standpoint. The typical triangular infarcts are rarely seen, and the only constant feature about them is that they seem to prefer the bases of the lungs and are usually peripheral in distribution. The electrocardiogram is positive for only a brief time in pulmonary embolism. Acute massive pulmonary embolism alone will give the typical acute cor pulmonale.

TREATMENT

When the physician is faced with a case of pulmonary embolism, there are two methods of procedure: the immediate use of anticoagulants, and surgical intervention. There is, unfortunately, little compromise between physicians interested in this field who believe in using heparin and dicumarol and their surgical minded colleagues who prefer surgical intervention. It is my belief that both methods used separately and collectively are superior to either method used to the exclusion of the other. Both methods may be needed in a single case, as in case 5 in which ligation controlled embolism for two weeks only, then dicumarol became necessary.

Crafoord,[5] from Stockholm, compared the results of heparinization with nonheparinization postoperatively. In 375 patients, all above the age of 40, who were heparinized, no postoperative thrombosis or embolism occurred, whereas in 302 control cases 33 cases of thrombosis or 11 per cent were noted. Bauer has used a similar system and has written exhaustively on it. In his series of 209 cases of thrombosis a mortality of 1.4 per cent was obtained when heparin was used and in earlier control years, 18 per cent was the figure obtained.

Loewe and Hirsch[12] have recently again reported favorably on the use of heparin in the Pitkin menstruum in thromboembolic disease. They claim that it permits restoration of the vascular stream more readily than without it; and it arrests the progress of the disease.

Barker, Cromer, Hurn, and Waugh,[4] from the Mayo Clinic, used dicumarol routinely in 1,000 surgical cases to prevent thrombosis and embolism, and no fatal pulmonary embolism occurred. They used a rather large dose of dicumarol, 300 mg. the first day, 200 mg. the second day, and 200 mg. on each succeeding day that the prothrombin level was more than 20 per cent of normal. Daily prothrombin determinations were used.

Aycock and Hendrick stated that the most satisfactory treatment for acute thrombophlebitis is paravertebral block with 1 per cent procaine hydrochloride, reinforced by bromsalizol. The addition of bromsalizol prolongs the effect of the block to from five to ten days, so that a single successful treatment may be all that is required. This relieves the venospasm and vasospasm that cause the edema and the pain. Elevation of the leg afterward is necessary and walking may be started in from ten days to two weeks if edema has disappeared. An elastic stocking is probably advisable in most cases. The upper four lumbar sympathetic ganglia are injected and this may be repeated. Bromsalizol may be irritating and should not be used in the cervical or thoracic regions.

Allen, Linton, and Donaldson have adopted the routine ligation of the superficial femoral veins in surgical patients over 65 years of age before, during, or just following the surgical procedure. In patients from 40 to 65 years of age, dicumarol is used unless some contraindication exists or unless signs and symptoms of thromboembolic disease occur, in which case ligation is used. In the group under 40 years of age usually no prophylactic measures are used since they are generally unnecessary. Dicumarol is also used when embolic phenomena persist after venous ligation.

Surgical interference in pulmonary embolism is slow in being recognized, not because of its newness, but because the period of its inception parallels the discovery and effective use of anticoagulants. A more complete knowledge of venous anatomy and the unfortunate confusion of the names of veins has complicated the situation. The fear of lack of communicating veins and subsequent gangrene has cooled the ardor of surgeons to accommodate internists in this problem. It is now known that this is practically never a justifiable fear, but if it is, the difficulty can be corrected simply. Venous pressure is measured in an available surface vein on the operating table. The femoral vein is then compressed, and if the rise is not too great there is nothing to be feared. The fear of after effects is a deterring influence, but need not be so. In 2 out of Robert Linton's 12 ligations of the vena cava, ultimate foot ulcerations occurred, but these would have been fatal embolism cases without ligation. Common femoral ligation is so often followed by edema that it is usually best avoided as a preliminary step. The old adage that emboli do not usually come from a leg with present or post thrombophlebitis is incorrect and should be abandoned. Embolism is still a medical disease and all treatment, suggestions, and methods of procedure should be primarily the internist's responsibility. It is the function and duty of the surgeon to be

acquainted with venous surgery so that he can willingly cooperate with the internist.

CASE REPORTS

Reported below are 7 cases which have been treated by surgical ligation of the superficial femoral veins. All of these cases were operated on by Dr. J. W. Nixon, who, so far as I am able to discover, was the first surgeon in Texas to do this type of surgery.

CASE 1.—A man, age 58, recovering from coronary thrombosis, on the ninth day developed agonizing chest pain, dyspnea, and fever. Roentgenograms revealed evidence of congestive failure at both lung bases without the typical appearance of pulmonary embolism, and the electrocardiogram likewise failed to be suggestive of pulmonary embolism and was also negative for additional coronary damage. On the tenth day the condition of the patient grew worse, and a bilateral ligation of the superficial femoral veins was performed under local anesthesia. Within twenty-four hours tremendous improvement occurred, and the agonizing chest pain diminished. Further postoperative convalescence was uneventful. Follow-up for the past three and one-half years indicates no recurrence, and the patient is well.

CASE 2.—A 48 year old man, who recovered three years ago from anterior coronary thrombosis, three days prior to admission developed severe right shoulder and chest pain with dyspnea and hemoptysis. A portable x-ray showed considerable consolidation in the right mid-lung zone extending to the periphery. The electrocardiogram suggested either a posterior coronary thrombosis or pulmonary infarction. In spite of oxygen therapy and dicumarol, the patient's condition grew worse. Bilateral ligation of the superficial femoral veins was performed under local anesthesia. Postoperative convalescence was uneventful and no recurrence of embolism has occurred, although mild cardiac decompensation has existed from time to time. His legs have given him no difficulty and did not interfere with his hunting this fall.

CASE 3.—A 53 year old, normal, healthy man suffered repeated attacks of chest pain at times followed by hemoptysis. Chest roentgenograms were suspicious but were never diagnostic of pulmonary embolism. Electrocardiograms were negative repeatedly. Because of the fear of a sudden massive pulmonary embolism, bilateral ligation of both superficial femoral veins was carried out under local anesthesia. Postoperatively descending bilateral thrombophlebitis occurred and considerable edema existed for almost a year. The legs are now normal, and no recurrence of embolic episodes has occurred. This case originally was phlebothrombosis and later developed into thrombophlebitis. The superficial femoral nerve was traumatized on one side in this case, an easy thing to do, and caused discomfort for six months. Edema did not bother this man, but pain did.

CASE 4.—A previously healthy man, age 56, developed acute coronary thrombosis and in twenty-four hours multiple pulmonary emboli developed with characteristic roentgen findings. Electrocardiograms suggested the presence of both conditions. Phlebothrombosis was diagnosed and bilateral ligation of both superficial femoral veins was performed under local anesthesia. The patient died, apparently from cardiac rupture, on the seventh day. No autopsy was permitted. Anticoagulant therapy was also used in this case, both before and after ligation. As mural thrombi rarely develop within twenty-four hours, this condition at once suggested phlebothrombosis. The ligation in this case should have been much higher. It was not possible accurately to locate this coronary thrombosis because of the cor pulmonale. It was likely anterior, as thrombi in that location alone rupture.

CASE 5.—A woman, age 64, previously healthy, developed attacks of dyspnea and hemoptysis with tachycardia and anxiety. Roentgen findings were suggestive of congestion at both lung bases. Rales were found at the base of each lung following these episodes, and a diagnosis of posterior coronary thrombosis was made electrocardiographically. A clinical diagnosis of pulmonary embolism was established, and bilateral ligation of both superficial femoral veins was carried out under local anesthesia. The patient's condition promptly improved, but two weeks later a new pulmonary infarct occurred. The site of this infarct could have been the deep femoral veins or the iliac veins. A mural thrombus could have occurred. Dicumarol therapy controlled this episode.

CASE 6. *Paradoxical Embolism.*—Six months ago this man, previously healthy except for thrombophlebitis fifteen years ago following a hernioplasty, developed simultaneous pulmonary and pancreatic infarction. Seven separate subsequent episodes of pulmonary embolism occurred, each controlled by heparin and dicumarol. It was finally decided to ligate both superficial femoral veins even though it was believed that the thrombotic process extended into the iliac veins. It was thought that later ligation of the vena cava could be done if necessary. The clots extended into and beyond the common femoral veins. Suction was used, and the operation was followed by dicumarol. In this case the rule of ligation of veins was violated, that is, it was not done in a healthy segment of vein without clot and with a collateral distal to it. Had this surgery been done six months ago the thrombus would not have been in the iliac veins.

CASE 7.—A woman, age 55, with periodic foot and leg pains for years had an aggravation of these in the year preceding ligation. The sudden onset of mild pleurisy was not attended by leg pains or swelling, but was accompanied by mild hemoptysis. A repetition of this symptom a month later was accompanied by a demonstrable small pulmonary infarct and immediate bilateral ligation of the superficial femoral veins was performed. No further attacks of pleurisy or hemoptysis have occurred. Postoperatively, rather late leg edema occurred but this disappeared in about six months. It was believed that fatal pulmonary embolism was prevented in this case. This patient had never spent any time in bed, but had suffered a fractured ankle a year or two before the onset of symptoms of leg pains.

CONCLUSIONS

Ligation of the superficial femoral veins, when done early, will control most cases of pulmonary embolism. Ligation done later is less apt to be successful and should be high enough to be done on a normal segment of vein. Thrombi can and do form proximal to the ligated segmented so it is usually safer to follow ligation for several weeks with dicumarol therapy. The reasons so far advanced to explain thrombosis are chiefly mechanical, whereas it is my belief that the final answer is at least partly chemical.

The original and subsequent advice of Dr. Paul White has been in my experience, like that of so many other men, a guiding beacon in a stormy sea.

The cases reported were treated in Santa Rosa Infirmary without whose cooperation a new operation would have proved more difficult.

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ABSTRACT OF DISCUSSION

Dr. James W. Nixon, San Antonio: We surgeons are fortunate in having the subject of venous thrombosis presented by an internist who has given the problem so much thought and study as Dr. Leopold. No other subject is receiving a more critical survey by both surgeons and internists than venous thrombosis with especial emphasis on pulmonary embolus. There is no other surgical complication which can end so shockingly and so suddenly as a massive pulmonary embolus. This situation as a surgical problem holds first place among complications of equal magnitude and importance, chiefly because of the diversity of opinion as to the proper method of management.

One reason for the present confusion is the fact that the literature is replete with conflicting testimony. Some surgeons report excellent results by the use of anticoagulants; others indicate that surgical ligation is the only satisfactory procedure. My experience in this field has convinced me that there are some cases which require preoperative ligation of the deep vein, but I would not recommend this method as a routine prophylactic procedure.

As stated above, one of the major difficulties in the management of pulmonary embolus is that it may occur, and fatally, without the slightest warning. DeTakats places this rate at 40 per cent. However, it should be constantly borne in mind that the embolus occurrence is more likely in older patients, particularly in connection with carcinoma, myocarditis, obesity, and other contributory causes, such as the incidence of cold weather or the necessity of the patient to assume certain positions resulting in stasis of the venous blood in the lower extremities. The surgeon should be suspicious, too, of the probability of the development of a pulmonary embolus in patients who have had a previous history of phlebitis of the deep veins of the leg.

It appears that the most important step in the management of this complication is the adoption of certain prophylactic measures for patients who are more likely to develop venous thrombosis. These measures should include (1) anticoagulants, (2) bandaging of the legs from the groin down, (3) early ambulation, and (4) avoiding positions that tend to cause venous stasis. However, should the patient develop pain in the calf of the leg, and a positive Homan's sign, or an elevation of temperature, rapid pulse, and signs of anxiety, the femoral vein should be ligated at once.

Routine examinations of the extremities of the patient postoperatively for signs of venous thrombosis should be done twice a day until the patient becomes ambulatory. There are as yet no means of determining where a vein should be ligated; however, should the superficial femoral vein be exposed and be found to contain a clot which cannot be removed, it might be necessary to ligate the iliac or even the inferior vena cava to get above the clot. Ochsner in pointing out the marked difference between phlebothrombosis and thrombophlebitis stressed that while ligation of the vein in connection with the use of anticoagulants is indicated for phlebothrombosis, thrombophlebitis should not have a ligation of the veins, but should in addition to the anticoagulants have a lumbar sympathectomy block to relieve vasomotor spasm.

Whatever the confusion may be concerning the other cases, it is perfectly clear that the superficial femoral vein should be ligated in those patients who have frequent episodes of pulmonary embolus which are characterized by periodic attacks of pain in the chest followed by hemoptysis and roentgen evidence of infarct of the lung. This brings an immediate end to the shower of pulmonary emboli.

There are many points in connection with venous thrombosis and pulmonary embolus which are yet to be solved, but at present the employment of anticoagulants together with surgical ligation of the deep vein when indicated unquestionably affords the best results.

PENICILLIN VS. SILVER NITRATE

Penicillin has not yet been shown to be superior to nitrate of silver for use in the eyes of the newborn as a guard against infection and its use without further experience would be a "calamity," the *New York State Journal of Medicine* asserts in an editorial in the April 15 issue.

An article in the *Woman's Home Companion,* April, 1948, claimed the babies are often rendered blind by the use of nitrate of silver as a prophylactic. This disaster, according to the article, could be avoided by substituting penicillin for nitrate of silver.

This is by no means proved, the *Journal* editorial comments. A worldwide acceptance of the use of a dilute solution of silver nitrate followed the introduction of this method to prevent gonorrheal infection in the newborn by Crede, German gynecologist. A special committee of the New York Academy of Medicine, named in response to a request from the New York City Commissioner of Health for an opinion as to the desirability of changing the Sanitary Code to accept penicillin as a substitute for silver nitrate, did not recommend any change, although it did suggest that hospitals, under adequate control, be encouraged to make further studies. The special committee included in its personnel an ophthalmologist, a pediatrician, and an obstetrician.

CARDIOVASCULAR SYPHILIS

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Heart disease is the most common cause of death in the country. Syphilis is the etiologic factor in about 10 per cent of the cases of fatal heart disease, and this form of heart disease is preventable in almost all instances.

The term cardiovascular syphilis practically always implies syphilitic aortitis, its complications, and the myocardial disease which may result. The complications of aortitis are serious—aortic insufficiency, aneurysm, or coronary ostial stenosis. A fatal outcome is the end result in the first two of these complications, little if at all affected by treatment. Syphilitic heart disease appears only in the patient having acquired syphilis; congenital syphilis probably never is the cause of such a malady.

DIFFUSE MYOCARDITIS

Syphilitic myocarditis occurs in rare instances either in the diffuse or in the localized form. About the former there has been much debate among pathologists. Surely such disease is not of the frequency claimed by Warthin[13] and a few others. Nevertheless an occasional patient having had acute syphilis is encountered in the thirties or early forties with "heart consciousness," palpitation, exertional dyspnea, and progression to failure. Examination may reveal cardiac enlargement and gallop rhythm. The electrocardiogram may demonstrate conduction disturbances. None of the usual causes of heart disease is present in these patients. Magill[8] followed 5 such patients to necropsy, finding extensive scarring and round cell infiltration in the myocardium. I have had a similar experience in one instance and have followed one or two other cases only clinically without the benefit of pathologic examination.

LOCALIZED MYOCARDITIS

Localized (gummatous) myocarditis is on much firmer ground both clinically and pathologically. In 1935 Sohval[12] collected 97 cases of gumma of the myocardium from the literature; others have been reported since then. Commonly the gumma has been described at the base of the interventricular septum, whereas in others it has been found in the ventricular walls. The clinical diagnosis of gummatous myocarditis of the septum may be strongly considered in a syphilitic patient under the age at which complete heart block would be expected from arteriosclerotic heart disease. The possibility of gumma of the ventricular wall may be entertained in a relatively young person having syphilis and presenting the picture of myocardial infarction and/or having bundle branch involvement as shown by the electrocardiogram. Numbers of such cases have been proved at necropsy.

AORTITIS

Aortitis and its complications are of major practical importance to practitioners. All of us encounter much more arteriosclerotic, hypertensive, and rheumatic heart disease than that of syphilitic origin. Nevertheless the latter makes up an estimated 10 per cent of heart disease, not only in charitable institutions but also in private practice. It is as the result of slowly progressing inflammatory changes in the aortic wall that the life endangering and fatal complications occur.

Pathology.—Though the chief interest in this review is in diagnosis and treatment, a brief survey of the basic pathology of aortitis is advisable. Invasion of the aortic well by Treponema pallidum occurs early in the disease, via the lymphatics from the mediastinal lymph nodes and the perivascular lymphatics of the vasa vasorum. The lymphatic supply is especially rich in the ascending and transverse segments of the aortic arch, thus accounting for the greater frequency of aortic disease here than in the descending thoracic and abdominal portions. The characteristic perivascular inflammatory reaction of lymphocytes and plasma cells appears about the vessels of the adventitia and the media. The resulting endarteritis of these vessels leads to their obliteration with attendant necrosis in the media and fragmentation of elastic tissue. Healing is by scar tissue.*

The gross pathologic picture is recognized at a glance. Overlying the foci of active mesaortitis the intima appears as bluish-gray patches. Such areas may surruond the orifices of the coronary arteries, decreasing their caliber. The healing and scarring of the media makes itself manifest as longitudinal creasing or striation of the intima.

With loss of elasticity, the aorta lengthens and dilates. This is especially likely to occur at the root of the aorta causing dilatation of the aortic ring. Thus the valve leaflets may separate, and sagging of the commissures may develop so that aortic incompetency occurs. This effect may be enhanced, or may be produced alone, by syphilitic involvement of the aortic valves with rolling of their

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*Only recently Frazier and collaborators[2] have reported from the University of Texas School of Medicine the isolation of T. pallidum by animal inoculation from the aorta in syphilis of twenty-five years' duration.

edges. The diffuse aortic weakening may permit the development of marked widespread dilatation of the arch, so-called aneurysmal dilatation. A focal point of weakness in the affected aorta may give way to develop into a saccular aneurysm.

Uncomplicated Aortitis.—The incidence of this condition can be obtained accurately only from pathologic studies and even then may vary with the criteria for this diagnosis as set up by individual pathologists. Warthin[13] reported an incidence as high as 90 per cent. At Vanderbilt University Hospital[6] among autopsies on persons above age 15 years in whom there was evidence of syphilis—either on history, serologic tests, or necropsy findings—the incidence of aortitis *without* aortic insufficiency or aneurysm was 20 per cent.

Clinical Picture.—The diagnosis of uncomplicated aortitis is difficult if at all possible to establish in the majority of instances. Thus incidence figures given on clinical studies are notoriously inaccurate. Though some clinicians have believed that fairly accurate diagnostic criteria can be set up, most of those interested in the problem believe that this is not true.

No burden is placed upon the myocardium in uncomplicated aortitis and thus symptomatology is absent. (Paroxysmal dyspnea and/or substernal pain occurring in the younger syphilitic patient—30 to 45 years of age—in the absence of aortic valvular disease or hypertension suggests aortitis with the uncommon complication of stenosis of the ostia of the coronary arteries by syphilitic plaques.)

Examination.—Rarely is the dilatation of the aorta such in the uncomplicated case as to lead to a heaving pulsation of the upper sternum or chest wall. Nor is it likely that the aorta will be so dilated as to permit the demonstration of retro-manubrial widening by percussion. A systolic murmur may be heard at the aortic area if there is supravalvular dilatation of any degree. Accentuation and an amphoric quality of the aortic second sound have been stressed by some authors as being of diagnostic significance. Admittedly in the young patient the systolic murmur and changes of the second sound may be significant. In either middle aged or older patients they are certainly of much less importance since arteriosclerotic changes and hypertension can cause such abnormalities.

The physician might pin his hope on the diagnostic aid of the roentgen ray in the problem of uncomplicated aortitis. However, clinicians and roentgenologists of experience have found little assistance in fluoroscopy of the aorta, aortic mensuration, or in teleroentgenograms except rarely. (Constitution, age, and position all are factors needing consideration in the interpretation of apparent aortic dilatation on roentgenologic study.) Those who have used the electrocardiogram in an attempt to diagnose aortitis have been disappointed. Only if the coronary ostia have been involved have changes been demonstrable. From clinical and necropsy statistical studies it appears that about 12 per cent of patients with even untreated disease may have negative blood tests.

Diagnosis.—Thus it is apparent that the diagnosis of uncomplicated aortitis is difficult at best.* Only the presence of coronary ostial stenosis causing anginal pain and/or paroxysmal dyspnea in a young person who has syphilis permits the accurate diagnosis on a clinical basis. If routine roentgenologic study is carried out on patients having late syphilis, an occasional instance of unquestioned aortic dilatation will be found. It is essential for the physician to remember that necropsy studies indicate that in a high percentage of cases of uncomplicated aortitis the clinical picture is asymptomatic and thus he must think of this disease as potential in every patient having late syphilis. By contrast he must also recall that the same studies show that other forms of cardiovascular disease may be the cause of symptoms in patients with latent syphilis.

AORTIC INSUFFICIENCY

The incidence of aortic insufficiency, a complication of aortitis, varies greatly with certain factors such as sex, race, occupation, and antisyphilitic treatment. Aortic insufficiency occurs in about 3 per cent of cases of late syphilis in clinics with mixed white and Negro patients. It has been the usual experience to find that the complications of aortitis are several times greater in the Negro race than in the white race. Likewise it is true that these lesions are several times more frequent in the male than in the female in either race. (These differences in sex and race are proportional and not related to the greater incidence of syphilis in the Negro or in the male.) It seems quite likely that heavy labor predisposes to the development of the complicating lesions of aortitis.

Treatment of early syphilis is an import-

*Maynard[9] has established probably the best criteria for the diagnosis of uncomplicated aortitis as follow: (1) the patient must have had syphilis beyond reasonable doubt; (2) there must be no evidence of any other disease that might dilate the aorta; (3) the patient must be 40 years of age or younger; (4) there must be roentgenologic or fluoroscopic evidence of a dilated aorta; (5) there may be a hollow, accentuated aortic second sound; (6) there may be a systolic murmur at the aortic area. Maynard's criteria are conservative in that they are likely to permit the selection only of some of the patients having aortitis and unlikely to select patients not having aortitis. They are so rigid that a true incidence of uncomplicated aortitis cannot be established thereby. However, the evaluation of the results of treatment will be more worth while on such criteria.

ant factor in the development of aortic insufficiency. Though there are no good figures available comparing the incidence of aortic insufficiency in untreated as compared to adequately treated early syphilis, it must unquestionably be true that this is of importance. It is a common experience of every syphilologist to see few if any instances of aortic insufficiency in patients who received adequate treatment for early syphilis.

Clinical Picture.—The diagnosis of syphilitic aortic insufficiency is in general as easy as the diagnosis of uncomplicated aortitis is difficult. The clinical manifestations of anatomic changes at the aortic ring commonly become apparent in the second and third decade after infection; aortic insufficiency thus makes itself known in the age group of from 35 to 50 years in white patients and at a somewhat younger age on the average in Negroes.

A certain percentage of instances of aortic insufficiency are found in the asymptomatic stage as a chance finding in the routine examination of patients for conditions other than disease.

It is hardly necessary to review the symptoms which may be encountered in those in whom the disease is the basis for seeking medical attention (table 1). Either the manifestations of a failing myocardium or cardiac pain force the patient to consult his physician. The evidence of an overburdened myocardium may be anything from slight exertional dyspnea to frank congestive failure. The anginal pain is due either to the poor coronary flow as the result of free regurgitation or associated stenosis of coronary ostia. (The latter were present in 20 per cent of my cases coming to necropsy at Charity Hospital.)

TABLE 1.—*Symptoms in 163 Patients with Aortic Insufficiency.* (After Kampmeier: Essentials of Syphilology, Philadelphia, J. B. Lippincott Co., 1943.)

Symptom	No. Cases	Per Cent
Chance finding (asymptomatic)	25	15
Dyspnea	120	74
Orthopnea	88	54
Paroxysmal dyspnea ("cardiac asthma")	64	39
Cough	73	45
Cardiac pain	67	41

The physical evidences of aortic insufficiency are variable, depending upon the degree of incompetency (table 2). The systolic nodding of the head and visible pulsation of the peripheral arteries are expressions of regurgitation of large volume. If there is considerable dilatation of the aortic arch there may be heaving of the upper sternum, suprasternal pulsation, and widened retromanubrial dullness. Again if the regurgitation is free, the heart is enlarged, at times greatly so, with a widespread heaving impulse well toward the axilla, the left border also being displaced laterally. The characteristic high pitched early diastolic murmur is heard at the aortic area but best along the left of the sternum even to the apex of the heart. Commonly associated are a systolic murmur at the aortic area and another at the apex, the latter due to relative mitral incompetency. At times in free regurgitation the low-pitched diastolic Austin-Flint murmur is present at the apex. Peripherally the sharp, short, pulse waves associated with alternate flushing and paling of the nail beds and lips indicate the freedom of the aortic insufficiency and are an expression of the low diastolic pressure so characteristic of this degree of valvular defect.

TABLE 2.—*Physical Signs in 163 Patients with Aortic Insufficiency.* (After Kampmeier: Essentials of Syphilology, Philadelphia, J. B. Lippincott Co., 1943.)

Physical Signs	No. Cases	Per Cent
Aortic diastolic murmur	163	100
Austin-Flint murmur	26	15
Collapsing pulse	76	47
Systolic blood pressure 140-159	25	15
Systolic blood pressure 160 or over	81	50
Diastolic blood pressure 60 or less	51	31
Congested cervical veins	39	24
Moisture in lungs	61	37
Effusion into serous cavities	16	9
Hepatic congestion	73	45
Edema	77	47

In the milder instances, especially those discovered by chance, all the findings described may be missing except the characteristic diastolic murmur. It may be faint and heard only at the left sternal border with the patient upright.

In contrast to uncomplicated aortitis the roentgen-ray examination commonly shows dilatation of the ascending arch with increased pulsation. The electrocardiogram provides no specific diagnostic changes.

The diagnosis as a rule poses no serious problems. Occasionally rheumatic valvular disease and hypertensive heart disease may need to be considered in the diagnosis.

AORTIC ANEURYSM

Aortic aneurysm of the saccular type frequently offers interesting diagnostic problems. A focal weakness in the aortic wall, more often on the greater curvature of the arch, permits the sac to be born. Aortic aneurysm also develops usually in the second and less commonly in the third decade of the syphilitic infection. The factors of race and sex likewise play a part in the incidence of the disease as in the case of the valvular lesion. In the racially mixed patients of Vanderbilt University Hospital Clinic the

incidence of aortic aneurysm was 1.2 per cent of late cases of syphilis.

Clinical Picture.—The symptomatology of saccular aneurysm of the thoracic aorta is dependent almost entirely upon the fact that it is an expanding tumor. Thus the anatomic location of the sac and the structures involved by pressure determine to a great degree the clinical picture. The structures and organs which may be affected by pressure are the trachea, major bronchi, lungs, esophagus, pulmonary artery, vagus and sympathetic nerves, right laryngeal and left recurrent laryngeal nerves, intercostal nerves, rarely the diaphragm, and indirectly the stomach. Pressure erosion of bones, as of the ribs, sternum, and occasionally scapula, with a protruding pulsating tumor, is not uncommon. Because of erosion of vertebrae, bizarre neurologic disease may develop from pressure upon the spinal cord or the segmental nerves. Aortic regurgitation accompanies saccular aneurysm only in a small percentage of cases and thus heart failure is not prominent in a group of aneurysm cases.

With these general remarks relative to the origin of symptoms due to saccular aneurysm of the thoracic aorta in mind, only imagination limits the possible clinical syndromes which may be encountered.

Like the symptoms, the signs may be of the greatest variety entirely dependent upon the structures involved by pressure. Roentgenologic study is a valuable adjunct in diagnosis when aneurysm is suspected and often provides the diagnosis in unsuspected cases upon routine roentgen examinations. However, it is not infallible as is shown by the fact that in 75 necropsy cases in which roentgen ray was used the sac was missed in 12 per cent.[3] By judicious use of both the roentgenogram and fluoroscopy the incidence of failure should never be so high.

Diagnosis.—The diagnosis of aortic aneurysm involves a differentiation from many conditions if the sac is not "silent" or a chance finding upon roentgen examination. Primary neurologic disease may be suspected from the findings of pupillary changes, laryngeal paralysis, root pain, or evidence of spinal cord compression. Carcinoma of the esophagus or stomach may be simulated. Numerous instances of aneurysm have led to the diagnosis of pulmonary tuberculosis, bronchiectasis, bronchogenic carcinoma, pneumonia, and lung abscess. Laryngitis is often diagnosed. Arthritis of the shoulder or spine may be mimicked. Tumors of the thyroid or thymus at times may be suggested by the lesion. Mediastinal disease of the lymphoma group implies differentiation from an aneurysmal sac.

PROGNOSIS

The outlook in cardiovascular syphilis is dependent upon the clinical manifestation.

So little is known of primary myocardial disease that not much can be said about it. Diffuse myocarditis will lead sooner or later to congestive failure. Gummatous myocarditis likewise is not likely to be compatible with longevity as appears from reviews of necropsy material.

Since the incidence of uncomplicated aortitis is not known, the prognosis cannot be accurately evalued. How frequently in the untreated state it leads to the two severe complications cannot be determined. In view of the known response of other late syphilitic disease to treatment, uncomplicated aortitis if treated should lead to fewer instances of complications. However, as indicated below, prevention is much more satisfactory than treatment of supposedly established aortitis.

In aortic insufficiency the prognosis depends upon the state of the myocardium and the rate of changes in it. Since the valvular disease is irreversible the outlook depends upon the degree of valvular incompetency, the patient's age and occupation, and the amount of coronary blood flow. The latter depends upon arteriosclerosis, syphilitic disease of the ostia, and the degree of valvular incompetency as a factor in intra-aortic pressure.

Among our patients, 55 per cent died within three years of onset of symptoms.[5] Heavy labor as related to sex and the Negro race was a prominent factor. White women have the best prognosis. We at Vanderbilt Hospital and others[1] have found that a life of relative inactivity may lead to longevity in this disease if failure of any degree had not been present. This is shown in table 3 for the 25 patients in whom aortic insufficiency was found by chance. The symptoms of heart failure and the signs indicative of free regurgitation greatly multiply the likelihood of early death.

TABLE 3.—*Course of Aortic Insufficiency in 25 Asymptomatic Patients.* (After Kampmeier: Essentials of Syphilology, Philadelphia, J. B. Lippincott Co., 1943.)

No. Asymptomatic Patients	Total No. Patients	Condition of Patients
2	89	Dead within 3 years after diagnosis
6	31	Dead after 3 years after diagnosis
9	18	Alive at 36 months after diagnosis
8	25	Alive from 37 to 168 months after diagnosis

Aortic aneurysm is associated almost always with a gloomy prognosis. The course

is dependent upon the rate of progress of the dilating sac and the structures pressed upon. We have encountered occasional patients with large saccular aneurysms who have lived for years even without treatment.

TREATMENT

The treatment of cardiovascular syphilis, as has been so well emphasized by Moore,[10] has always been conservative. It has been considered that the more active treponemicidal drug arsenic should play a role secondary to a more slowly acting substance such as bismuth, in the hope of attaining a slower resolution of the active process with the least amount of scar and resultant deformity. The likelihood of a Herxheimer reaction with bismuth is much less than with arsenic, and such a reaction in active aortitis can be serious, even fatal. Thus it has been customary to use bismuth, often alone, in the treatment of aortic insufficiency and aneurysm. Its use in a long preparatory course before the addition of arsenic has been customary in patients suspected of having uncomplicated aortitis. It goes without saying that the treatment of cardiac failure, if present, by the usual drugs and methods is of primary necessity. Antisyphilitic treatment in such cases should await reestablishment of myocardial reserve if it is to be used at all.

The effect of antisyphilitic treatment has been hard to evaluate. The difficulty of diagnosis in uncomplicated aortitis makes it impossible to determine the degree to which the prognosis is altered. Though some authors have believed that treatment in established aortic insufficiency and aneurysm has prolonged life, this may not be necessarily true. In our group some patients lived a long time without any treatment. It seems highly possible that the treated patients who had a prolonged life received so much treatment because they lived long enough to receive it.

The question of the use of penicillin in the treatment of cardiovascular syphilis arises. Nothing is known of its effect; however this antibiotic should be thought of as being actively treponemicidal as is arsenic. Herxheimer reactions occur in acute syphilis. Therefore Moore[11] has advised, if it is to be used, that the dosage be small with gradually increasing doses over a period of some days. In several patients with neurosyphilis and accompanying aortic insufficiency or aneurysm in whom I have used penicillin I have used a different plan. The patient has been prepared with bismuth, water soluble and/or in oily suspension, followed by penicillin in full dosage.

PREVENTION

Of much greater importance than the treatment of established disease is its prevention. Syphilitic heart disease is preventable in almost all instances. It is likely that adequate treatment of the acute case would eliminate this disease. I believe the incidence of complications of aortitis have been decreasing in the past years. In the Scandinavian countries where control of syphilis in the acute stages has been in force longer than here, the incidence of cardiovascular syphilis had decreased definitely before the war (Madsen[7]). Maynard[9] has shown that "when treatment was administered six or more years after the chancre appeared, four times more patients developed cardiac disease than when treatment was completed within three years after infection."

In penicillin a potent treponemicidal substance is available which offers adequate treatment in *early* syphilis within a short time. Universal application of adequate treatment should reduce the amount of cardiovascular syphilis in a couple of decades from now.

However penicillin is not an unmixed blessing. I am disturbed by the frequency with which a few daily or several daily injections are given of the aqueous penicillin. This is grossly inadequate. Likewise the perfectly proper use of penicillin in beeswax and oil for gonorrhea is masking untold numbers of cases of early syphilis. It is essential that the physician treating these patients follow the progress of the case for some months with blood tests. Emphasis on what constitutes adequate treatment of early syphilis with penicillin can eliminate one of these problems. The proper follow-up of the penicillin treated patient with gonorrhea will lessen the other.

SUMMARY

A brief review of the clinical manifestations of cardiovascular syphilis has been presented. The treatment and prevention of syphilitic heart disease have been touched upon.

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SYMPTOMS OF CORONARY ARTERY DISEASE MASQUERADING AS GASTRO-INTESTINAL SYMPTOMS

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Many a gallbladder has come under the scrutiny of a surgeon's eye when pain, associated with nausea or vomiting or both, was thought to be of abdominal origin, when in reality the underlying cause was coronary artery disease. There can be little wonder why patients with angina attribute their complaint to a gastro-intestinal origin when they develop pain after eating or during the night and can get relief by belching or taking soda in warm water. The fact that the pain may occur low substernally or high in the epigastric region will often mislead the patient and physician alike into assuming that the pain has originated in the gastro-intestinal tract.

Often it is not clearly understood why patients should get relief of cardiac distress by belching or why, when attacks of angina develop, nausea and vomiting frequently occur. Dyspnea and palpitation occurring in the middle aged or elderly person after eating, whether coronary artery disease is present or not, many times can be explained by the fact that digestion increases the circulatory demands on the heart.

There is little doubt that many cases of acute infarction present a clinical picture of an acute abdominal condition. Upper abdominal tenderness may be due to acute distention of the liver, which can be associated with abdominal muscle rigidity, and may be secondary to acute infarction. However, other physical signs or symptoms and certain investigative procedures such as the electrocardiogram should give the true clue to the diagnosis. If an infarction has occurred, serial tracings will, in most instances, reveal changes which are consistent with that type of cardiac insult. Naturally delay in surgery is to be desired unless perforated peptic ulcer or acute pancreatitis cannot be excluded.

As long ago as 1768 when William Heberden gave his account of "A Disorder of the Breast" in a lecture before the Royal College of Physicians in London, he recognized the difficulty of differentiation of the pain of angina pectoris from that of extracardiac origin, possibly ulcer, when he said, "But though it be most probable that a strong spasm be the true cause of this disorder, yet there is some reason for thinking that it is sometimes accompanied with an ulcer and may partly proceed from it: for I have seen two of these patients who often used to spit up blood and purulent matter, one of whom constantly asserted that he felt it came from the seat of his disorder. Another had a painful sensation in swallowing and upon pressing the part which seemed to be affected." Throughout this same lecture, Heberden indicated the importance of evaluating the patient's symptoms from the history before a satisfactory diagnosis can be established. Although Heberden's original work was based on 20 such cases, a later treatise by him stated that he had seen 100 cases, of which 3 were women, in a period of fourteen years. How much more developed our diagnostic acumen is at present, for it is not uncommon for the physician specializing in cardiovascular disease to see as many as 100 cases of angina pectoris in one year.

It therefore becomes more important for those of us in the modern practice of medicine to be able to evaluate by history the diagnostic criteria necessary to differentiate symptoms of coronary artery disease from other abdominal diseases. The following points in the taking of an accurate history are of importance in determining the presence of coronary artery disease and angina:

1. *Exertion.*—What is its relation to the onset of pain? Is this pain of short or long duration? Will cessation of exertion stop the pain? Many patients will complain that their chest pain develops on exertion and that it may persist for several hours or longer after the exertion has stopped. Such a statement is very unlike angina pectoris and probably the pain is of extracardiac origin.

2. *Emotion.*—Does emotional stress or strain cause chest pain to persist or is the pain of short duration? Here again if the emotional stress has subsided, the pain of angina pectoris also subsides promptly. The aggravation of pain on exertion, following a meal, during emotional stress, cold or windy weather, or when walking is difficult, is typical of angina pectoris. Exact time relationships are extremely important and the symptoms should be elicited carefully and the relationships carefully determined, for

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upon these time elements so often the diagnosis of coronary artery disease can be established.

A history of previous coronary thrombosis can usually be considered as reliable and will usually lead to a correct diagnosis. A history of typical anginal attacks or of such distress following episodes of nausea or vomiting, the retrosternal or epigastric location of the pain with its radiation to the abdomen, throat, arms, or left arm, the skin changes from normal to grayish pallor with the usual profuse sweating, and occasionally the fear of impending death, all tends to emphasize the possibility of coronary thrombosis. When patients are known to have angina and they begin to complain of pain after eating or during the night after retiring, it is often reasonable to suspect that infarction or thrombosis is impending. The fact that the patient obtains relief from soda or a drink of whisky during an attack does not exclude coronary infarction.

Management of acute infarction has become a fairly well standardized procedure with the use of bed rest, oxygen, and supportive therapy such as aminophyllin and light diets.

The patient with angina pectoris may present rather a difficult problem to manage. Most physicians resort to the use of nitroglycerine in an effort to relieve the anginal symptoms. However, its effectiveness sometimes can be questioned. Patients who have angina frequently take nitroglycerine as their distress becomes evident and at the same time stop their exertion, so that it becomes impossible to say whether the nitroglycerine or the cessation of the exertion caused the pain to disappear. It is suggested that nitroglycerine be tried as a preventive before the patient begins the exertion which he has learned usually causes distress. Such a trial would help to prove the effectiveness of the nitroglycerine and in questionable cases may serve as a clue to the presence of angina.

Patients who have angina and who frequently associate their pain with eating should be placed on small meals, weight reduction regimes, and bland diets. Often these patients will obtain more or less complete relief through a weight reduction program. Those who have angina during the night should always eat light suppers. Brandy or whisky may be kept at the bedside, and small quantities may give as much relief as nitroglycerine without producing the side effects of that medicine. Aminophyllin for these patients may prove more effective than for those who have angina from emotion or effort.

The following brief case histories will show some of the variations of symptoms of coronary artery disease which have masqueraded as gastro-intestinal symptoms.

CASE REPORTS

CASE 1.—A 62-year-old man, a construction foreman, called a surgeon because he had epigastric and left hypochondriac pain associated with moderately severe nausea and vomiting, with the attendant gaseous distention. Three days later, because of a sudden drop in blood pressure and the development of a bradycardia of 58 beats per minute, consultation was asked. Pulmonary and peripheral edema were present. Pain, of lesser degree, still was present in the epigastrium and radiation of this pain to the left shoulder had developed.

Electrocardiographic findings were typical of changes in the myocardium as manifested by inverted T2, inverted T3 and diphasic T waves in lead IV R. The ST segments were of the active coronary type. A diagnosis of posterior coronary thrombosis seemed consistent with the changes noted on the electrocardiogram.

CASE 2.—A 49-year-old man, on the morning of December 22, 1946, had been helping a neighbor mix cement when he felt tightness in his throat. This was followed by pain on swallowing. The symptoms disappeared in about thirty minutes. That afternoon while working under his automobile in a rather strained and awkward position, he suddenly became short of breath and had severe pain in his throat which seemed to increase with each act of swallowing. Nausea had developed without vomiting. The patient felt that vomiting would relieve his discomfort. He attempted to induce vomiting by exciting his gag reflex with his finger, but without success. Serial electrocardiographic tracings have shown changes consistent with a posterior coronary occlusion.

CASE 3.—A 64-year-old woman came to the office complaining of low retrosternal distress, which seemed to occur chiefly when eating and invariably produced a sensation of fullness in her chest. By further questioning it was learned that the patient had a second type of distress. This pain seemed to be most often associated with mild dyspnea and exertion but was located in the same position as the pain which developed when eating.

Fluoroscopic examination of the esophagus revealed a diverticulum at the level of the junction of the middle and lower thirds. Electrocardiographic changes were significantly suspicious of myocardial disease in that the Q waves of leads II and III were prominent, measuring 2.5 mm. and 3.0 mm. respectively. The T waves of lead II were diphasic and in lead III they were practically isoelectric. It seems obvious that this patient was suffering from two distinct ailments which she was unable to differentiate herself.

CASE 4.—A 40-year-old man, of the obese type, was seen in consultation because of his complaint of epigastric and right hypochondriac pain. The patient had been awakened at 3 a.m. by nausea followed by severe midepigastric pain which later was accompanied by pain in the right hypochondrium. Previously, a similar episode had caused the family physician to have the patient admitted to a series of gallbladder roentgenograms. That study disclosed the presence of a solitary gallstone. The family physician had the patient hospitalized and surgery scheduled. However, the patient showed an increase in dyspnea and consultation was requested.

Electrocardiographic findings showed a high take off of the ST segments in lead I, CE2, CF4, and CF5, with beginning inversion of the T waves in those leads. The surgery was cancelled because a diagnosis of acute anterior coronary thrombosis seemed consistent with the electrocardiographic findings.

SUMMARY

This paper, including illustrative case histories, stresses the importance which should be given to the taking of a careful history. By this means contributory factors as well as the true nature of the patient's disorder will be found.

2001 Grant Avenue.

ABSTRACT OF DISCUSSION

Dr. Ralph H. Homan, El Paso: There are four special points to emphasize in this paper.

1. The relative position of pain, which is often low substernal or high epigastric, and may frequently mislead the patient and the physician into assuming that it originated in the abdomen. This is occasioned, of course, by the fact that the autonomic nervous system cannot accurately localize pain because there is not a uniformity of formation of these nerves.

2. The nausea and vomiting occurring in the presence of acute infarction. This is due in part to shock and in part to the fact that the vagus nerve, which assists in the enervation of the heart muscle itself, also is closely connected with the upper abdominal viscera.

3. The duration of pain and its direct relationship to exertion and emotional stress. Allaying emotional stress and decreasing nervousness works marvelously in decreasing pain due to heart conditions, but does very little good in decreasing pain when it is due to affection of the abdominal organs.

4. Trial by nitroglycerin as a preventive is important, particularly when questionable cases of angina exist. However, I have seen cases of acute gallbladder conditions in which the pain would be markedly relieved by the dissolution of 1/200 grain of nitroglycerin under the tongue. This follows closely the fact that quite often myocardial attacks can be brought on by acute infection of the gallbladder.

All physicians have seen cases illustrating each of these points, and I believe that so long as there are acute upper abdominal and cardiac crises, there are going to be mistakes in diagnosis.

NOTICE OF CONTAMINATED DEXTROSE

A warning to all physicians and hospitals to check their stocks of Cutter's dextrose and saline solution bearing code number CM 8164 has been issued by the American Medical Association. At least two and possibly four deaths have occurred following administration of the Cutter Laboratories solution, and at least eight other serious reactions have been reported. It appears that the solution has been contaminated with a heavy growth of bacteria or mold. Several hundred one liter bottles with the code number mentioned have been unaccounted for. If any of this code of 5 per cent dextrose in saline is found, the Food and Drug Administration has requested that it not be destroyed but that it be reported to the nearest Food and Drug Administration office so that an accurate check on the extent of recovery of the solution can be made.

THE CAROTID SINUS SYNDROME: ITS IMPORTANCE IN CLINICAL MEDICINE

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H. T. ENGELHARDT, M. D., F. A. C. P.
and
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In 1933 Weiss and Baker[9] described a group of patients, each of whom had a hyperactive carotid sinus reflex and in addition suffered from attacks of faintness or syncope with or without convulsions. Previous to that time the effects of carotid sinus stimulation were well known and the characteristic symptoms resulting from pressure on a hypersensitive sinus had been noted. However, spontaneous attacks due to an abnormally hyperactive reflex were not recognized before the account given by Weiss and Baker. So thorough was the work by Weiss and his co-workers in their original and subsequent studies[1, 10] that very little has since been added to the fundamental knowledge of the subject. Perhaps this accounts for the relative paucity of papers which have dealt with this, what we consider important and not uncommon, symptom complex.

Briefly, the carotid sinus is the bulbous dilatation of the internal carotid artery at the point of its branching from the common carotid artery. This area is richly supplied with sensory receptors whose afferent fibers travel chiefly through the intercarotid nerve and thence by way of the glossopharyngeal nerve to reach the medullary centers. Connections are then made with afferent channels which transmit impulses to other parts of the brain, to the heart by way of the vagus, and to the arterial tree through the sympathetic system. Respiratory, gastrointestinal, and other peripheral sensory and motor effects may be produced through the reflex, either directly or indirectly. The older idea that direct stimulation of the vagus caused these effects has, of course, been adequately disproved.

For inducing attacks the investigator first locates the carotid sinus, usually just below the angle of the jaw. With the head turned somewhat to the other side firm pressure is applied first to one sinus and then the other. Continuous electrocardiographic tracings are recorded on our patients during and for a few seconds before and after pressure. Frequent blood pressure determinations and close observation of the patient are also made. Following recovery from the attack the patient is questioned about his experience and com-

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parison is made with the spontaneous episodes.

As have others, we have considered the term carotid sinus syndrome as applying to those patients having spontaneous attacks of disturbed consciousness with or without other manifestations and whose attacks could be reproduced by pressure on one or both carotid sinuses. We have observed a number of cases of a hypersensitive carotid sinus reflex but which gave no history of spontaneous episodes; such patients were not included in the group which form the basis of this discussion. In a study of 115 patients with a hyperactive cardioinhibitory carotid sinus reaction, Nathanson[6] found only 23 instances of the carotid sinus syndrome. A distinction must be made, therefore, between a hyperactive reflex per se and the clinical state that is the carotid sinus syndrome; the difference, however, is probably a relative one.

CASE	SEX	AGE	DOMINANT TYPE	PRECIPITATING OR CONTRIBUTING FACTORS	SYMPTOMS IN SPONTANEOUS ATTACKS	OTHER SIGNS IN INDUCED ATTACKS	SENSITIVE SIDE
1. D.T	M	59	Cardiac	Stoop, Squatting?	Syncope, Convulsions	Hyperpnea Facial pallor Fall in B.P.	Both
2. T.A.	M	48	Cardiac	Reaching over head	Syncope, Convulsions	Hyperpnea	Right
3. A.S.	M	64	Vaso-motor	Shaving, Tight collar	Faintness, Syncope	Some bradycardia	Right
4. A.V.	M	56	Cerebral	Turning head, Digitalis?	Syncope, twitching of hand	Facial pallor, paresthesia left hand	Both, esp. right
5. Mrs. J.G.	F	24	Cerebral	Bending over Fatigue?	Faintness, Syncope	Hyperpnea, Numbness of left arm	Right
6. E.R.	M	35	Cerebral	Position of head, fatigue	"Dizziness" paresthesia	Hyperpnea	Esp. right
7. Mrs. H.S.	F	50	Cerebral	Stooping?	"Dizziness" tingling right hand	Jerking of right fingers	Esp. left
8. A.P.	M	58	Cerebral	Fatigue?	Confusion paresthesia	Hyperpnea	Right
9. F.J.	M	58	Cerebral	None obvious	"Dizziness", wavering	Quivering, numbness of right hand	Esp. left
10. C.B (col)	M	39	Cerebral	Emotional disturbances	Giddiness, "rumbling" in head	Jerking of left arm	Both, esp. right
11. J.N.	M	63	Cerebral	Position of head	Faintness, giddiness	Considerable fall in B.P.	Left
12. E.P.	M	42	Cerebral	Position of head	"Dizziness", Syncope	Hyperpnea. Jerking arm	Esp. left
13. C.D.	M	46	Cerebral	Position of head	"Blackouts" Numbness right leg Facial pallor	Hyperpnea. Vent. standstill, E.C.G.	Both

FIG. 1. Summary of 13 cases of carotid sinus syndrome.

INCIDENCE

The frequency of this syndrome has not been determined. We feel strongly that it is not uncommon and much more prevalent than is generally appreciated. We have had 13 private cases within the past two years. Most of these were seen in the practice of one of us; within the same period there were discovered in general diagnostic studies 11 cases of peptic ulcer, 4 of diabetes, 3 of active pulmonary tuberculosis, 10 of syphilis, and 1 of pernicious anemia. The condition appears to be more common in the older age group though it has been reported in the teen age. The average age of the patient at onset of the condition in our series was 47 years, the youngest being 22 and the oldest 64. Eleven of the patients were men and 2 were women.

CLINICAL MANIFESTATIONS

Intensity of symptoms during attacks varied considerably in our series both in individual and different cases. Loss of consciousness was mild and transient to prolonged and complete. At times it could be described merely as a momentary weakness or faintness or giddiness; dizziness was a term often used by the patient and usually indicated a confused state rather than one of vertigo or even unsteadiness. In only two or three of our cases did the period of unconsciousness exceed fifteen minutes. In the more severe attacks patients fell to the floor or ground, while in the milder ones they either staggered, sat down, or reached for support. Amnesia immediately surrounding the attack was occasionally noted. Sphincter control was not lost and in only one case on one occasion was there injury to the tongue and mouth, probably due to trauma from falling to the

ground. Convulsions occurred in only two instances (fig. 1).

The induced attacks were in general similar to the spontaneous, particularly in regard to the disturbances in consciousness. However, the patient could often not recall certain reactions occurring in the spontaneous episodes which we produced by pressure on one or the other carotid sinus. We refer to such manifestations as hyperpnea, twitching, numbness and tingling in the extremities, and nausea. We were particularly impressed with the changes in respiration that occurred in 6 patients; this consisted in a heaving type of breathing—deeper, more rapid, and somewhat labored in character. Muscular movements in the extremities were always on the contralateral side except in 1 patient in whom generalized convulsions de-

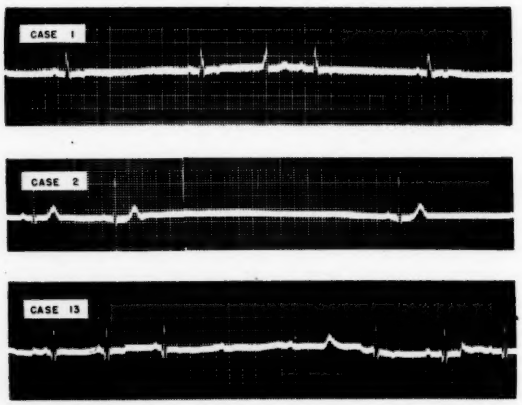

FIG. 2. Electrocardiographic response when pressure is exerted on the carotid sinus.

veloped with persistent pressure over the carotid sinus. Parasthesia extended to both sides in 2 cases. Changes in blood pressure and heart rate will be described under the various types.

The inciting cause of the spontaneous attack was most often obscure. In only 6 patients were histories obtained which indicated direct pressure on the carotid sinus as the offending stimulus. These included pressure on the neck while shaving, looking upward when wearing a tight collar, and tensely holding the head in various positions; even in these patients such direct stimulation was not always the cause. One man insisted that the squatting position brought on spells; however, in the examining room this could not be confirmed. Bending over induced attacks in 1 patient. In several patients attacks were more frequent during periods of depression and emotional unrest.

TYPES OF SYNDROME

The three classical types of this syndrome are the cardiac, the vasomotor, and the cerebral. Three or perhaps four mechanisms are involved in the production of these different types. Although the symptomatology is essentially the same in all, it is important from a therapeutic standpoint to determine the mechanism in each individual case.

Cardiac Type.—In this variety ventricular slowing or standstill is the cause of the attack; cerebral ischemia is produced and syncope results. The efferent impulse is carried to the heart by the vagus; hence atropine abolishes the effect. Two of our patients belonged to this group. Others showed cardiac slowing of varying degree but prevention of the bradycardia by atropine did not perceptibly affect the syncope.

The electrocardiogram reveals several types of cardiac response when pressure is exerted on the carotid sinus (fig. 2). Simple bradycardia, sinoauricular block, partial or complete auriculoventricular block, ventricular ectopics, and various abnormalities in the different complexes may occur. Short periods of ventricular fibrillation have been observed. Ventricular standstill for a varying number of seconds (up to 12 seconds or even longer) followed by a slow rate while pressure is maintained is a frequent type of response.

Diagnostically, atropine sulfate was administered parenterally to all patients who showed any marked degree of cardiac slowing. The dose of atropine was sufficient to induce physiologic effects such as dryness of the mouth and tachycardia; our minimum dose was 1 mg. Patients whose syncope was abolished by atropine were considered to belong primarily to the cardiac type even though fall in blood pressure or facial pallor was not prevented.

Vasomotor (Peripheral or Depressor) Type.—This is the least common of the three varieties. Only 1 of our cases belonged in this category. The impulse originated in the carotid sinus is carried to the vasomotor center and thence by efferent sympathetic depressor nerves to the arterioles. Fall in blood pressure (fig. 3) is the outstanding response and the resulting cerebral ischemia produces syncope. Pressure on the carotid sinus causes a prompt and marked fall in blood pressure which rises rather quickly when pressure is released. In our case the pressure did not always rise to its previous level even after ten or fifteen minutes. Atropine does not prevent the fall in pressure and the ensuing syncope, but epinephrin and

ephedrine do nullify the effect of carotid sinus pressure.

Cerebral Type.—This is the most frequent variety and the majority of our cases belonged to this group. Some of these were "pure" in type, that is, they were unaccompanied by significant changes in blood pressure or pulse rate when the carotid sinus was stimulated. Just what is the mechanism in this variety is not clearly established. Blanching of the face due to contraction of the superficial arterioles is frequently but not always observed in these patients when pressure is applied to their sensitive carotid sinus; flushing follows the pallor. Weiss and his associates first believed that spasm of the cerebral arteries, similar to the spasm which occurs in the skin vessels, was the cause. However, subsequent studies did not substantiate this hypothesis of cerebral ischemia, and Weiss and his groups later expressed the view that the reflex involves more direct action on the areas concerned with consciousness.

We were impressed, as others have been, with the state of nervous imbalance so often present in patients with the cerebral type of syndrome. Complaints of fatigue, weakness, irritability, and the like were common, and attacks were more frequent during such periods of instability. One of our patients had a marked lowering of his basal metabolic rate but thyroid administration was of no value.

It has been shown by several investigators that digitalis has a sensitizing effect on the carotid sinus reflex.[1, 2, 3, 4, 5, 11] One of the mechanisms is a vagal effect with resulting slowing of the heart. Ferris, Capps, and Weiss[1] have presented evidence that in certain cases a sensitization of the cerebral reflex may be the mechanism involved; in such instances cardiac standstill is not the important factor. In 1 of our patients with the cerebral type (case 4), digitalis was definitely of etiologic significance; his single spontaneous attack occurred during full digitalization. At that time sensitivity of the carotid sinus reflex was marked but after cessation of digitalis for a week or longer the sensitivity was greatly diminished.

Mixed Type.—Most cases, except some belonging to the cerebral type, present evidence that all three pathways are involved in the hypersensitive reflex. However, in all our cases and apparently in those previously reported, a dominant link in this triangle could be demonstrated. It is important, as already mentioned, that such a differentiation be made. The use of atropine and adrenalin or ephedrine is frequently required for this determination.

DIFFERENTIAL DIAGNOSIS

Differential diagnosis resolves itself into the differentiation of the various types of syncope. Weiss[8] and Sodeman and Engelhardt[7] have thoroughly reviewed this subject. The important point in the diagnosis of the carotid sinus syndrome is to bear in mind the possibility of its presence and to test the sensitivity of the carotid sinus reflex in all cases of syncope in which the etiology is uncertain.

TREATMENT

It is reassuring to most of these patients to be told the nature of their illness and that the condition itself is not serious. In certain occupations, attacks of syncope may be dangerous; and patients should be warned of these hazards if they are not already aware of them. Sometimes readjustments can be made satisfactorily. One of our patients, a radio patrolman on the police force, has arranged it so that his partner does all of the driving, thus obviating one potential liability. Wearing loose collars, avoiding certain strained positions of the head and neck, and care in bending over are important in certain cases but of little significance in others. The role of digitalis as a factor has been referred to previously.

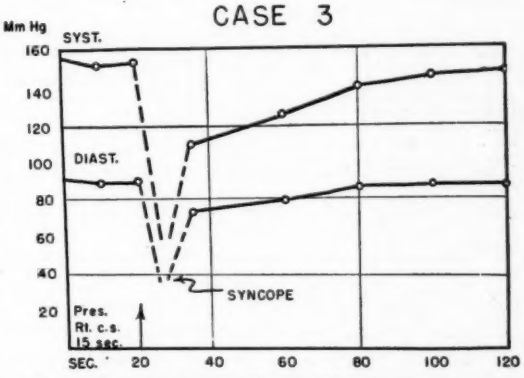

FIG. 3. Chart showing the effect on blood pressure when pressure was made on the right carotid sinus for fifteen seconds, case 3. Blood pressure was not obtainable by the auscultatory method during syncope.

There are certain specific medical and surgical measures. In the cardiac type, atropine or belladonna, by paralyzing the vagal fibers to the heart, are often successful in preventing attacks; 1 of our patients has apparently been benefited by this medication. In the vasomotor or depressor type ephedrine in regular doses may be tried. Surgical treatment consists of denervation of

one or both carotid sinuses. There are now a number of reported cases in which this procedure has been curative. There have also been failures, possibly because of the existence of other unknown afferent pathways in the reflex chain. None of our patients has undergone this operation; perhaps some of them shall choose to do so in the future.

SUMMARY

A discussion of the carotid sinus syndrome based on a study of 13 cases is presented. The reflex pathways, the incidence, the clinical manifestations, the inciting causes, the differentiation and mechanisms of the dominant types, and the treatment are considered. The frequency of the condition is particularly emphasized, for it is our belief that many instances of this syndrome are still overlooked.

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ABSTRACT OF DISCUSSION

Dr. Merton M. Minter, San Antonio: The symptom complex arising from an over sensitive carotid sinus must be borne in mind if we are to satisfy many patients with syncope who go from doctor to doctor seeking a reason for their attacks. As the authors have demonstrated in finding so many cases in a short period of time among their patients, it is obvious that many of us are not following the simple procedures necessary to determine quickly and rather definitely whether or not syncopal attacks are related to a sensitive carotid sinus. I believe that their contribution calling this to our attention is worth while. I believe that the treatments as outlined by them are probably as good as any but in my own experience they have not proved entirely satisfactory. I have not sought surgery for relief of such patients and it is possible that this may be the answer to some of the more serious attacks.

Dr. Paul J. Thomas, Dallas: This excellent presentation by Drs. Cope, Engelhardt, and Baird, and the discussion by Dr. Minter are so comprehensive there is little left to say. I believe by far the most impressive feature of this paper is the incidence in the authors' practice of this syndrome as compared to other diseases which most of us would expect to be far more common. If this high incidence is not a coincidence, it must mean that the authors are unusually alert in suspecting and testing for carotid sinus hyperirritability. They have pointed out that varying manifestations in dizziness to unconsciousness, convulsions, and final death can result from this disorder. These symptoms are by no means diagnostic of hyperirritable carotid sinus, and it was only by reproduction of these symptoms by carotid sinus stimulation that the diagnosis was finally made. Inasmuch as the authors did not have time to consider the differential diagnosis in detail, I would like to point out a few of the more important conditions which may cause similar manifestations, and in the majority of which diagnosis can be made by definite objective tests.

Hypoglycemia and epilepsy should be ruled out easily by the history and physical manifestations at the time of attack, and the blood sugar or electroencephalogram. In the cardiovascular system there are several disorders giving rise to similar symptoms. They almost all have in common cerebral ischemia. Decreased oxygen tension by virtue of anemia, high altitude, or displacement of oxygen by other gases should be rather obvious if borne in mind. Hypertensive encephalopathy, of course, is associated with marked elevation of the blood pressure. The position of the patient at the time as well as the usage of the valsalva experiment or flack test render the diagnosis of orthostatic hypotension no great problem. Aortic insufficiency and stenosis are both characterized by rather obvious murmurs and blood pressure findings as well as other features. Physical examination and electrocardiogram tend to confirm suspicion of those arrhythmias which give rise to the above symptomatology. This is more apt to occur in Stokes-Adams syndrome and transient tachycardias, and atrial or ventricular fibrillation. Finally, and most difficult to verify by objective means, is the left atrial ball-valve thrombus of the mitral stenosis. To repeat, in almost all these disorders the diagnosis can be made by merely thinking of the condition as the essayists have done, and making the appropriate test.

Dr. Smithwick has pointed out, in addition to the fact that operations around the neck are apt to precipitate the carotid sinus syndrome, that before surgical attempts to relieve this condition are made, it should be established that novocain block of the carotic plexus is effective, for if it is not, it is unlikely that surgical removal will aid.

Dr. Arthur Ruskin, Galveston: The subject of carotid sinus hypersensitivity is intriguing and has been well presented. This syndrome is found especially in the older age group, associated with arteriosclerosis and hypertension. The phenomenon of cardiac slowing upon carotid sinus pressure as shown in the electrocardiograms presented is much more common and usually asymptomatic. In view of the wide range of possible symptoms, some of which may be associated with carotid sinus hypersensitivity, and others due to cerebral arteriosclerosis or unrelated conditions, therapy is difficult to evaluate. Even when cardiac asystole and hypotension result from sensitivity of the carotid sinus, the use of atropine and the ephedrine group of drugs may fail to prevent them or to control the symptoms of the patient. In one recent case showing cardiac asystole for twenty seconds or more from pressure on the right carotid sinus, dizziness resulted from turning the neck rapidly to the right, but also occurred on walking. Drug therapy was ineffectual, but the symptoms gradually subsided as the mental strain (of the Texas City explosions) was relieved. In the cerebral form, emphasized by the authors, therapy should be even more difficult.

USES AND ABUSES OF COAGULATION AND BLEEDING TIME PRECEDING TONSILLECTOMY

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I have observed what I deem an undue interest in clotting and bleeding times prior to surgery on the tonsils. In addition, I have seen much calcium used in an attempt to bring into control any suspected deviation from normal.

This interest seems to me to be a vestigial remnant of yesteryear and to be out of proportion to its value when weighed against knowledge and teachings concerning the conditions in which the clotting and bleeding phenomena are apt to be abnormal. Even today, with everyday talk of vitamin K, its ready availability and fairly economical cost, calcium is still used in treating suspected deviations from normal, and this seems to be a therapeutic approach based upon such flimsy scientific legs that one wonders that it still stands as an accepted method of treatment.

Realizing the wide use of coagulation and bleeding time tests before tonsillectomy, I wondered just how they came into prominence. In W. M. Mollison's article on the history of tonsillectomy he quoted from Wise's *Review of the History of Medicine*. Seemingly, the early Hindus, in writing on diseases of the palate, advocated the removal of tonsils by seizing them between forceps and cutting them with a semicircular knife, recommending removal of only one-third, since they feared that if more were removed "so much blood would be discharged as would destroy the individual." According to Mollison, Galen and Celus spoke of operation on the tonsils in a manner to indicate that it was a rather accepted procedure. The ancients undoubtedly showed some wonderment and interest in the coagulation and bleeding phenomenon.

Sollmann indicated that Archibald Pitcarin discovered the inhibition of coagulation of blood by plant juice in 1717. Castiglioni gave W. M. Hewson, a student of John Hunter, credit for making the first systemic studies on blood coagulation in 1771. Apparently Alex Schmidt proposed the first logical theory as to the mechanism of the coagulation of blood. According to Sollmann, the influence of calcium on coagulation was probably first recognized by Hammarsten in 1879. He and Howell both gave credit to Arthur and Pages as the first to show its indispensability in 1890.

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In 1891 A. E. Wright first began to write on blood coagulation, and in 1893 published his article on a method of determining the condition of blood coagulability for clinical and experimental purposes, reporting a case of a 5-year-old boy with petechial hemorrhages, bruising easily, prolonged bleeding, and swelling of joints. He administered calcium chloride and thought he had shortened the coagulation time. However, in the last coagulation time on the patient reported in the article it was more than one hour. He and his workers advocated the administration of calcium to shorten the clotting time, and this seems to be the principal origin of the general use of calcium in decreasing coagulation time. Later it came to be known that in hemophiliacs the coagulation is not affected by the ingestion of calcium. It was Wright also who advocated, on theoretical basis, the use of acid-producing salts and the withholding of milk in all cases of typhoid fever and thrombophlebitis, for fear that the calcium would enhance formation of thrombi and with the hope that the acid-producing salts would tend to prevent the coagulation of blood.

In 1909, Addis concluded that calcium and citric acid had no marked effect upon the coagulation time. Sollmann indicated that Colemann, Robertson, Illman, and Duncan (1907), Rudolph (1910), Dale and Laidlaw (1912), and Hess (1915) found no marked effect on the coagulation time following the administration of calcium. Sollmann attributed some of the variable results to variations in technique, and cited the experiences of Veldon (1913), who found a variable and short decrease in the coagulation time following the ingestion of calcium. He also found the ingestion of sodium chloride had the same effect. Sollmann concluded that the effects are due to an intestinal mucosal response to a local action of the salts upon its cells. Digitalis, adrenalin, and amylnitrite, as well as most operative procedures, are cited as shortening coagulation time. Coagulation time has been found to vary considerably during various periods of the day.

Duke apparently introduced the test for bleeding time in 1910. He found great prolongation in two classes of conditions, those in which the platelets are greatly reduced and those in which the fibrinogen content of the liver is extremely low, as in destructive diseases of the liver. Tocantins reported that the bleeding time may vary in different portions of the body, and it changes in the same area from day to day. According to him, such variations have forced some

research workers to resort to the mean bleeding time, a figure representing the results of at least five determinations in different portions of the body.

The amount of calcium necessary for the coagulation of blood is so small that it is inconceivable for a calcium deficiency ever to be the cause of a prolonged coagulation time, since a calcium level low enough to affect the clotting mechanism is incompatible with life.

Running concurrently through the literature are many articles on the old argument of whether to do a tonsillotomy or a tonsillectomy. This argument seems to hinge around hemorrhage. There are numerous statements indicating that hemorrhage is more frequent in adults and less frequent in children, regardless of the instrument that is used, and indeed there has been a large variety of instruments and methods introduced over the years. Today coagulation and bleeding times are requested more frequently in children preceding tonsillectomy.

I was unable to find who first started using coagulation times preceding tonsillectomy, but in the early 1920's there are the most articles on the subject. The gradual decrease since that time is probably the result of critical evaluations with reference to hemorrhage.

Baily concluded from a survey of 356 hospitals in 1922 that a family history was of more value than coagulation and bleeding times. Rainy, in 1923, found calcium lactate and coagulation times of no value. Haster, in 1924, found no particular relation to coagulation time and hemorrhage. Hunt, in 1927, in the most extensive paper on the subject based upon a survey of 300 approved hospitals, found that 55 per cent used the test. Most of those who stopped using it did so after critical studies. Hunt could find no case up to that time in which the lack of these tests influenced any litigation arising from the operation. Reuter reported 40 tonsillectomies per month for twenty years and found the test of no value. With 1 patient with an extremely prolonged coagulation time he had no trouble. The Indianapolis City Hospital had done 140 tonsillectomies per month for six years without a death from hemorrhage, and eliminated the test as a bothersome procedure. Adkins, in 1935, stated it is of no value as a test preceding surgery on the throat. Ballanger, in his textbook on otolaryngology, stated that the clinical values of blood coagulation tests prior to tonsillectomy are doubtful. Mason, in his book on preoperative and postoperative treatment, questioned the value of the test and stated that a prolonged bleeding time is not always a contraindication for operation on tonsils. Lederer also indicated his doubt of the value of the test.

I have had occasion to look at a number of hospital charts in which coagulation and bleeding times were requested and in which operation was postponed because of a slightly prolonged coagulation time, yet these charts showed no record of the patient being asked about hemorrhage following previous operations or anything pertaining to the possibility of a blood dyscrasia. Often no other blood work was done at all. Hemorrhage following the extraction of teeth is as intractable as hemorrhage from any other operative procedure when there is a vascular or blood dyscrasia which enhances the tendency to bleed or exhibits a defect in the clotting mechanism. There is not the same degree of interest in coagulation and bleeding times preceding this operation, yet dentists apparently do not run into any more difficulties from a lack of this test than do those who do tonsillectomies with benefit of coagulation and bleeding time procedures.

Not infrequently patients will state that they are bleeders. This is not an unusal belief, yet they are seldom true hemophiliacs since hemophilia is indeed a rare condition. An adequate history will often elicit the information that when they cut themselves while shaving or have other minor cuts they do not bleed for hours. A prolonged bleeding and coagulation time is found in a number of conditions in which a routine blood count or other studies will give as much information.

Hemorrhage following tonsillectomy is usually traumatic in origin or the result of trauma, such as complicating infection, and rarely has as a cause an underlying condition demonstrated by an increased tendency to hemorrhage.

Studies in the causes of post-tonsillectomy hemorrhages almost invariably show that they occur in the region of the entrance of the five major vessels into the tonsils. Hemorrhages occurring after the operation, in which the coagulation and bleeding time would be of benefit, are largely capillary and would be likely to follow any operative procedure. The factors which give an increased tendency to hemorrhage are (1) diminished amount of fibrinogen; (2) deficiency of prothrombin; (3) deficiency in thromboplastin; (4) excess of antithrombin; (5) deficiency of blood platelets or their progenitors; and (6) capillary hyperpermeability.

Diminished amount of fibrogen will occur

in almost any severe disease of the liver, also in pseudohemophilia. The clotting time may be normal but the clot soft and nonadherent. Deficiency of prothrombin is usually related to vitamin K disturbances and may be due to an insufficient intake or an insufficient absorption because of diarrhea or other intestinal disturbance or a decreased hepatic function. Deficiency in thromboplastin may underlie true hemophilia. Thromboplastin is derived from tissue cells and platelets, and is present in small amounts in plasma. Excess of antithrombin may occur in septicemia, pneumonia, miliary tuberculosis, anaphylactoid purpuras, and in certain other poisons. Deficiency in blood platelets, from which a portion of thromboplastin and other substance affecting the coagulation of blood and bleeding times is derived, occurs in many severe diseases of the bone marrow and in some of the purpuras. Capillary hyperpermeability may be due to the purpuras, extensive tuberculosis, cardiorenal disease, glandular disturbances, and in intoxications from mineral and benzene ring compounds.

It would seem from the above that an adequate history and physical examination, and possibly a white and differential blood count with sedimentation rate, would be the first steps to take in preparing a patient for tonsillectomy when there is some doubt as to his being hematologically normal. If a coagulation and bleeding time test seems indicated, a complete hematologic study is definitely indicated from the standpoint of capillary fragility, clot retraction time, platelet count, prothrombin time, as well as perhaps more than one coagulation and bleeding time test if the hematologic findings are questionable.

Wintrobe and Kolmer both made the statement that a determination of coagulation time, no matter how accurate, is of limited clinical value, not only because it fails to distinguish between the various factors that may be responsible for delayed coagulation, but because these are present in such excess that any one of them must be greatly reduced before coagulation is affected. Therefore, it is not an accurate screening test and should never be used alone. When it and the bleeding time are the only tests used before a tonsillectomy, it constitutes an expenditure of money and effort in a direction that has the least chance of returning worth-while information; therefore, a maximal expenditure for a minimal return.

In conclusion, it has been said, I believe by Osler, that we cannot overstate our debt to the past, but the moment or present must always stand in the clear sun at high noon. In the orderly evaluation of our natures the old and the new are never disassociated. Habits, custom, opinions, and beliefs influence us out of the past, sometimes helpfully, at other times hurtfully. Now the sole term on which the past can become ours is its subordination to the present. Medicine is no exception to this philosophy, and old concepts must be re-analyzed with critical and exacting methods, not just accepted because of custom or legal implication if the facts are not borne out by experience critically analyzed by statistics.

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ABSTRACT OF DISCUSSION

Dr. A. B. Cairns, Dallas: It is well to pause and make a critical inspection and evaluation of procedures which have long been taken for granted. We do this too infrequently in medicine.

Obviously the reason for preoperative clotting time and bleeding time determinations has been to prevent postoperative hemorrhage. Since most of those who perform tonsillectomies agree that the cause of such hemorrhages is usually mechanical, it is a waste of effort and money to do these tests where a careful history precludes the existence of one of the blood dyscrasias. As Dr. Shepeard has stated, if such a dyscrasia is suspected after a careful history and physical examination, coagulation and bleeding times only are certainly not adequate.

Dr. Harbert Davenport, Jr., Houston: Dr. Shepeard has presented a problem which should be given common-sense evaluation by everyone concerned, including surgeons. Indirect questioning of the patient or the parents is worth considerably more than coagulation and bleeding time procedures. More valuable information can be obtained from the results of a urinalysis, complete blood count, and a serologic test for syphilis. The blood specimen for the serologic test may be observed and more information can be obtained in regard to the coagulating qualities of the blood than from the usual coagulation time tests.

Although a mere 2 per cent of the nation's doctors are qualified psychiatrists, 60 per cent of the Veterans Administration medical load consists of patients requiring psychiatric care.

EPISTAXIS

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Nasal hemorrhage is usually distressing and terrifying to the patient as he not only has the fear of bleeding to death, but also that of suffocating due to the accumulation of blood in the air passages.

Bleeding from the nose may be caused by disturbances in Kiesselbach's area where 95 per cent of spontaneous hemorrhages from the nose originate. The hemorrhages are caused by distended veins within this area of the cartilaginous nasal septum, which are superficial and of such vulnerability that the slightest disturbance such as coughing, sneezing, blowing, or bending the nose is all that is necessary to rupture the dilated vessels. The walls of these veins are adherent to the surrounding cartilage; hence, they cannot retract, but gape open when injured and bleed profusely from a small lesion.

The anterior portion of the nose is exposed more to traumatic insults than any other portion, especially cleansing with a handkerchief and picking with fingernail which injures the superficial dilated veins and causes a hemorrhage outward.

Malignant and benign neoplasms are not frequently seen in the nasal cavities, but when present they usually hemorrhage profusely, requiring ligation of the carotid or the ethmoidal arteries to control the bleeding.

Nasal hemorrhage induced by vascular changes is a frequent symptom observed in hemophilia, scurvy, arteriosclerosis, kidney disease, the anemias, the infectious diseases, phosphorus poisoning, acute yellow atrophy of the liver, and vicarious menstruation.

In all cases of epistaxis Kiesselbach's area should be carefully inspected first. The thumb may be used to raise the tip of the nose, or the nostril may be spread with a small nasal speculum to expose the area. If the patient is seen after the hemorrhage, the dilated vessels of the septum with the red and white dots on the mucosa will be an aid in locating the bleeding area. The bleeding may be controlled with cold cotton or gauze compresses pressing the alares or the lower lateral cartilages against the anterior portion of septum with the thumb and index finger of the right hand. The head should be lower than the chest and the mouth open; the patient may sit in a chair or lie on the abdomen with head extended over the side of the bed. In this position the blood accumulates in the nose and the patient does not have the fear of suffocating, can breathe comfortably through the mouth, and can also swallow. The bleeding point is located under direct vision and should be cauterized, preferably with chromic acid. A silver probe is heated over the burner and dipped in the chromic crystals. Some of these will adhere and when heated over the flame will melt and form a bead at the end of the probe. When the chromic bead touches the bleeding vessel, it coagulates the blood, forming a light yellow scab. The excess chromic acid is washed off with water or neutralized with sodium bicarbonate solution on a cotton swab.

Most cases of nasal hemorrhage can be controlled in this way, but this method sometimes fails since the bleeding originates in the back of the nose. The bleeding may be slowed by temporarily placing cocaine 5 per cent and adrenalin moistened gauze packs in the nose. When the gauze packs are removed, topical thrombin may be sprayed or dropped with a 22 gauge spinal needle to the bleeding points which are seen as raised red and white dots on the mucosa. When the hemorrhage is brisk, it is best to pack the nose with strips of gelfoam moistened with thrombin, beginning on the floor, so that one end reaches the posterior naris and the other the vestibule. The gelfoam or oyxcel (sterile absorbable oxidized cellulose) packs may be left in the nose several days without risk of traumatizing or injuring the membranes. The anterior opening may be sufficiently packed, but there is oozing through the posterior opening which is usually controlled by inserting a postnasal pack. A size ten, soft, rubber catheter is passed through the nose and the end grasped with curved artery forceps in the pharynx and brought out through the mouth. A string is tied to the end of the catheter, which is withdrawn through the nose, pulling the string with it. Three strings are tied about the center of a roll of iodoform gauze the size of the distal phalanx of the thumb. The two lateral strings are fastened to the string hanging out of the patient's mouth and the strings are then drawn out through the nose from behind forward by pulling firmly on these two strings and guiding with a finger in the throat. The iodoform pack is thus drawn into the nasopharynx. The third string, which is in the center, follows the iodoform pack and hangs out of the mouth. It is only for convenience in removing the postnasal pack. The strings are separated

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at the anterior nares and the nose is packed with narrow strips of gelfoam. The strings are then brought over the packing and firmly tied. The packing may be left in the nose at least a week if it is placed so that it does not interfere with the eustachian tube.

The nasal hemorrhage may occasionally be so severe as to require ligation of the external carotid or the ethmoidal arteries. The source of bleeding must be determined before any vessel is ligated. Hemorrhage from above the middle turbinate indicates that the ethmoidal arteries have been ruptured; the sphenopalatine and facial arteries are responsible for bleeding below the middle turbinates. If bleeding is profuse, the source may be determined by observing the effect of packing different regions in the nasal cavities. Digital pressure on the common carotid artery should arrest bleeding from the sphenopalatine artery; if the flow is not lessened by pressure, the hemorrhage originates from the ethmoidal vessels.

The largest source of blood supply to the nose is the sphenopalatine artery, which is a branch of the external carotid artery. Nasal hemorrhage resulting from injury to the sphenopalatine or facial arteries is treated by ligation of the external carotid artery under local anesthesia. A 3 inch incision is made along the anterior border of the sternomastoid muscle beginning about .5 inch below the tip of the mastoid process. The sternomastoid muscle is retracted and the carotid sheath incised. The vessels and nerve are then separated. The bifurcation of the common carotid artery is usually on a level with the upper border of the thyroid cartilage. The connective tissue and the sympathetic nerve plexus are separated in the area of the superior thyroid and lingual arteries, then with forceps, a large black silk suture is passed from within out under the external carotid just below the lingual artery and tied. The larger the silk suture used to ligate, the less danger there is of the suture severing the artery after the incision is closed. It is not at all infrequent that the plexus of sympathetic nerves in this area are traumatized, a condition which results in disturbance of circulation and respiration.

The anterior and posterior ethmoidal arteries, which are branches of the ophthalmic artery arising from the internal carotid, also contribute to the arterial system which supplies the interior of the nose. Because of the efficient communication of the circle of Willis, ligation of the internal carotid artery will not control bleeding from the ethmoidal arteries, and the operation is not warranted simply to lessen flow of blood.

Ligation of the ethmoidal arteries is a simple procedure and is accomplished under local anesthesia. Through a 1.5 inch curved incision placed medial to the inner canthus, the periosteum is incised and elevated from above, downward, and backward to a depth of about 1.5 inches from the bridge of the nose. The vessels are observed passing in the connective tissue to the foramen in the suture line between the frontal and ethmoid bones along the inner wall of the orbit. A malleable retractor is placed beneath the periosteum and the orbital contents are pushed gently outward and downward. The anterior branch of the artery is ligated with a large silk suture and the posterior vessel may be coagulated with a high-frequency diathermy current.

It is always advisable for the patient to have a thorough physical investigation by a competent internist with special attention to the cardiorenal system. If there is a secondary anemia, transfusions of 250 cc. should be given every other day supplemented with vitamin K, 2 mg., three times a day.

CONCLUSION

The causes of epistaxis are legion. The object of all treatment is directed toward immediate relief of the bleeding. Topical thrombin is exceedingly valuable, especially when the origin of the bleeding is in the anterior portion of the nose.

In cases of severe hemorrhage an accurate diagnosis should be made before ligating vessels—the external carotid or ethmoidal arteries. Spontaneous hemorrhages are easily controlled; however, frequent nose bleed warrants a thorough physical investigation.

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ABSTRACT OF DISCUSSION

Dr. James W. Ward, Greenville: There is little I care to add to Dr. Woodson's excellent paper. Some of his points might bear reemphasis.

When a nose bleed presents, it is of first interest to locate the point of bleeding if possible, keeping in mind that about 90 per cent of nasal bleeding is from the anterior portion of the nasal septum. It is also important to determine whether bleeding is caused from a local or from a general condition. An adequate case history is always important.

As Dr. Woodson suggested, most nose bleed can be controlled by cauterization with chromic acid when the bleeding point is located. An application of 50 per cent silver nitrate solution or an electric cautery is also effective. When the bleeding point

cannot be located, packing posteriorly and anteriorly usually checks bleeding.

If neither cautery nor packing brings satisfactory results, the physician may resort to the use of .25 grain morphine intravenously, koagamin given intravenously and intramuscularly, 10 to 20 cc. of the patient's blood or 10 to 20 cc. of warm whole blood from a donor given in the gluteal muscle, or small transfusions of typed blood.

If the history reveals that the patient has any liver trouble or has been taking acetylsalicylic acid or salicylates, vitamin K in 10 mg. doses given intravenously and intramuscularly is indicated.

If bleeding continues after all these aids have been tried, ligation as outlined by Dr. Woodson must be resorted to.

In such cases, I would like to emphasize the necessity of keeping in mind that the blood supply of the nose is from the external carotid artery, the only exception being the upper part of the nose, which is supplied by the anterior and posterior ethmoid branches of the ophthalmic artery, which in turn arises from the internal carotid artery.

Dr. G. H. Wood, Big Spring: Dr. Woodson has given an interesting paper on a condition that is usually disagreeable to treat. A persistent and freely bleeding nose case can spoil a day quicker than any other type of patient. For that reason, I never rush to see a case of epistaxis. If enough time has elapsed, about 80 per cent of them will check themselves. The other 20 per cent can cause more dirty linen, waste of adrenalin, cocaine, and so forth than should be used on 10 patients. Chromic acid, silver nitrate, the coagulating current, Monsel's solution, and various other coagulants are used with equal success in the majority of cases. Any bleeding vessel that can be seen will respond satisfactorily to one of the above coagulants. The real problem, as Dr. Woodson has discussed, lies with the inaccessible vessels. If such a vessel can be ligated or sufficient pressure exerted by nasal packs, the hemorrhage can be checked. If a high septal deflection is present on the side that has a bleeding ethmoidal artery, a submucous resection with a tight pack for forty-eight hours will usually suffice.

The most interesting nose bleed I have ever seen occurred in a chronically infected antrum. Repeated nose bleed occurred every other night. After six such attacks the patient consented to a Caldwell-Luc procedure with complete cessation of his hemorrhage.

Dr. Wallace B. Wilkinson, Dallas: Every paper I hear concerning nose bleed comprises mainly a complete description of the technique of packing a nose in order to stop the hemorrhage. It is my plea that these nasal hemorrhages be stopped without packing the nose. I agree with Dr. Woodson that 90 per cent of nasal hemorrhages come from the anterior part of the septum. Certainly there is no reason to pack a nose in these cases. A little local anesthetic with adrenalin will temporarily stop the bleeding. Then the bleeding spot can be destroyed with light cauterization with the actual cautery.

In my experience another 6 to 8 per cent of nasal hemorrhage comes from beneath the middle or posterior third of the lower turbinate. These are difficult cases but with patience it is possible by using a small suction tip carefully to follow back the bleeding until the area is found from which the hemorrhage comes. Again a small actual cautery can be inserted beneath the turbinate and the area of bleeding can be cauterized without causing damage to the nose.

I have found it necessary only once in my experience of twenty years to pack a nose and I see no reason why my share of severe nose bleeds should not have come my way.

SPECIAL DIAGNOSTIC PROCEDURES IN CARDIAC EVALUATION

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A diagnostic problem is usually solved by a complete history and physical examination. Special diagnostic procedures are indicated for persons with heart disease.

ELECTROCARDIOGRAPHY

Electrocardiography is the most important of these and is valuable in two general types of abnormalities. The first is the mechanism of initiation and conduction of the cardiac impulse, and the second is the method of inscription of the ventricular complexes. The former is concerned with disturbances of rate and rhythm, usually recognized by physical examination. The latter is concerned with disturbances of the neuromusculature and includes intraventricular conduction defects, ventricular hypertrophy, and coronary artery disease.

An intraventricular conduction defect may be suspected from physical examination, but it requires an electrocardiogram to establish the diagnosis. Ventricular hypertrophy can usually be diagnosed from physical examination. The position of the heart within the thorax has a direct effect on the electrical axis, and consequently multiple precordial leads should be used as an aid in establishing the presence of individual ventricular hypertrophy.

In left ventricular hypertrophy the R waves are relatively larger and occur later in the QRS cycle over the left side of the precordium. In right ventricular hypertrophy there is an opposite record.

The anginal syndrome of coronary arteriosclerosis can usually be diagnosed from the patient's history. The physical examination and electrocardiogram are normal in from one-third to one-half of these patients. When these are equivocal the Master "two-step" test may be used to ascertain the state of the coronary circulation. Electrocardiographic alterations frequently occur after exercise if coronary insufficiency exists. The exercise must be standardized for age and weight because changes occur in normal persons with excessive exercise.

Myocardial infarction can also usually be diagnosed from the history, physical examination, and certain alterations in the standard electrocardiogram. When these are equivocal, multiple precordial leads often reveal the lesion in the myocardium. Infarcted muscle is not capable of a normal electrical

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response. Therefore the R wave is small and the QRS complex usually bizarre over an incomplete infarct, and the R wave absent over a complete infarct extending from the endocardial to epicardial surface. Multiple precordial leads are of greater value in the diagnosis of an anterior myocardial infarct than of a posterior infarct. In the latter, the R wave is usually not abnormal, but the ST segment is depressed, and the T wave elevated. This is opposite in type to those observed in an anterior infarct.

ROENTGENOGRAPHY

Roentgenography is of next importance. Fluoroscopic examination reveals the shape and pulsations of the heart and their relation to adjacent structures. A teleroentgenogram measures the transverse cardiac diameter. Using prediction formulas, the estimation of heart size enables distinction between the obviously normal and the enlarged heart. A teleroentgenogram does not significantly add to information obtained by the fluoroscope. Its value is in comparison of serial records, provided there is due consideration of technical factors, such as the height of the diaphragm, the weight, and the position of the patient. The range of measurement in health is so great that enlargement of the heart may exist and the recorded measurement be within normal range.

Systolic murmurs at the apex of the heart, when of mild intensity, often cannot be properly evaluated by physical examination. Fluoroscopic examination reveals an enlargement of the left auricle in approximately two-thirds of the persons with deformity of the mitral valve.

Systolic murmurs at the base of the heart are not so difficult to interpret as those at the apex. The important problem is to ascertain whether the murmur originates from the aorta or pulmonary artery. If the defect is in the aortic valve, the fluoroscope may reveal an increase in the length and convexity of the inferior border of the left ventricle. If the defect is in the pulmonic valve, there may be a prominence of the pulmonary conus.

The diastolic murmur of mitral stenosis is more commonly recognized on physical examination than is the diastolic murmur of aortic insufficiency. Mitral stenosis, in addition to causing enlargement of the left auricle, produces an increase in the convexity of the border of the right ventricle, and later a straightening of the concave border from the aorta to the left ventricle. A diastolic murmur originating from the aortic valve should be easier to detect than one from the mitral valve, because the former is less likely to be confused with abnormal heart sounds. Aortic insufficiency, as in aortic stenosis, may reveal an increase in length and convexity of the inferior border of the left ventricle and, in addition, an increased pulsation of the aorta.

Acute pericarditis with an effusion of from 250 to 500 cc. of fluid is usually visible on fluoroscopic examination. Smaller effusions may be visualized with the patient standing in the lateral position during sustained inspiration.

Syphilitic aortitis or aneurysm may be suspected on physical examination if the aortic second sound is accentuated or if a murmur exists. In a patient over 40 years of age, even though the aorta is observed to be dilated by roentgenography, syphilis or arteriosclerosis or both may cause the dilatation.

The roentgenkymogram may be of diagnostic value in aneurysm of the aorta or ventricle, in pericarditis with effusion or constriction, or in myocardial infarction. This method is useful in addition to other examinations. The angiocardiogram and venous cardiac catheterization are also special procedures. The former visualizes the individual chambers and great vessels by roentgenographic contrast measures. The latter is a method of determining intracardiac pressures and oxygen contents. Both have their greatest value in the diagnosis of congenital defects.

It is important to be able to differentiate congenital from acquired heart disease. Congenital anomalies are frequently multiple. The anomalies that may be corrected or ameliorated by surgery include coarctation of the aorta, patent ductus arteriosus, and defects that permit large quantities of venous blood to enter the arterial circulation, for example, the tetralogy of Fallot.

The adult and more common type of coarctation of the aorta is a constriction of the lumen at, or immediately distal to, the insertion of the ductus. Roentgenography may aid in the diagnosis by demonstrating a notching of the ribs from dilated intercostal arteries that serve as collateral circulation. In addition there may be an absent prominence of the aorta and enlarged left ventricle. Patent ductus arteriosus is usually complicated by other anomalies, but when it occurs alone, the fluoroscope may reveal an increase in the size of the pulmonary conus as previously illustrated and an increase in the pulsation of the pulmonary artery.

Pulmonary atresia or stenosis under certain conditions permits surgical anastomosis

of vessels and consequent improvement of the pulmonary circulation. These defects include pulmonary atresia, with or without dextroposition of the aorta, and with or without a defective development of the right ventricle and the tetralogy of Fallot, that is, pulmonary stenosis with dextroposition of the aorta, ventricular septal defect, and an enlarged right ventricle. Fluoroscopic examination in the tetralogy of Fallot reveals an enlarged right ventricle and conus with no prominence of the pulmonary artery.

The criteria for surgical intervention are roentgenographic evidence of a small pulmonary artery, no congestion of the lungs, an abnormally clear pulmonary aperture, no fullness of the conus, and a concave silhouette at the base of the heart.

OTHER PROCEDURES

Another special procedure is *measurement of venous pressure.* This is frequently valuable in the differentiation of right ventricular failure, pericarditis with effusion or constriction, cardiac tamponade, edema, and ascites. The venous pressure is measured at the phlebostatic level, defined as the distance from the base of the xiphoid process to the examining table with the patient in the supine position. The median basilic vein should be used. If the patient rests supine for ten minutes, with the arm abducted to 60 degrees, the normal values on consecutive readings should be within from 50 to 150 mm. of water. The average rise in pressure in mild congestive failure with manual compression of the right upper quadrant is approximately 100 mm. An increase in venous pressure frequently precedes the onset of clinical signs of failure of the right side of the heart.

Estimation of the circulation time is easily made and is often of value in the differential diagnosis of congestive failure. It is especially useful in distinguishing the causes of dyspnea, cyanosis, edema, and symptoms or signs that may be confused with heart disease. This includes bronchopulmonary, hepatic, and renal disorders. Various substances may be used. Sodium dehydrocholate (Decholin) may be recommended for determining the circulation of the left side of the heart or "arm to tongue" time. More than twenty seconds is considered abnormal and indicates left ventricular failure in the majority of cases. Ether may be recommended for determining the circulation of the right side of the heart or "arm to lung" time. More than twelve seconds is considered abnormal. When the right ventricle fails, the circulation time of the left side of the heart is prolonged further by the addition of failure of the right side of the heart.

The vital capacity is more a test of the general physical condition than of heart disease. It does not differentiate cardiac from pulmonary disturbances. The result is influenced by experience in performing the test, the body position, and the metabolic rate. Its value in heart disease is to determine the extent of pulmonary congestion and to estimate the progress of heart failure.

The basal metabolic rate is increased during the active stage of hyperthyroidism. A rate of from 25 to 30 per cent above normal is regarded as borderline evidence and demands a careful observation for a final diagnosis of thyrotoxicosis. It should be remembered, however, that congestive heart failure may increase the basal metabolic rate up to 25 per cent. If there is hypothyroidism with myxedema, the rate is decreased from 25 to 30 per cent or more.

The sedimentation rate of red blood cells is a nonspecific test and may be used as an aid in determining whether or not an active process has subsided. This is of particular value in the infectious lesions, especially in rheumatic fever, and in necrosis with tissue replacement of myocardial infarction. The sedimentation rate must be corrected for variations in the hematocrit.

SUMMARY

A careful history and thorough physical examination are of the greatest value in ascertaining the condition of the heart, but special diagnostic procedures may be required. The indication and value of these are discussed as they are used in cardiac evaluation.

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ABSTRACT OF DISCUSSION

Dr. George W. Parson, Texarkana: I shall stress only two points, both of value in the diagnosis of mitral stenosis. The first concerns electrocardiography. An electrocardiogram showing right axis deviation and auricular fibrillation is highly suggestive of mitral stenosis. The second point has to do with fluoroscopy and roentgenology. Mitral stenosis causes predominant right ventricular and left auricular strain. These cardiac chambers respond with an increase in size. In the case of the right ventricle the enlargement occurs early in the outflow tract where it joins the pulmonary artery—the conus area. This can be demonstrated on fluoroscopic and roentgenologic examination as a change in the contour of the left border of the cardiac silhouette. There is a loss of the normal concavity in the segment of the left border between the aortic knob and the left ventricle. As the enlargement increases, a well-marked convexity develops in this conus area. This change usually can be easily seen from the anterior-posterior view, but often it is better demonstrated in the right anterior-oblique position. The left auricle enlarges toward the spine

and displaces the structures in the retrocardiac area, especially the esophagus. This enlargement can be readily demonstrated in the right anterior-oblique view on fluoroscopy and roentgenography when the esophagus is filled with barium. The barium-filled esophagus is seen to be displaced dorsally toward the spine. This combination of enlargement of the right ventricle and enlargement of the left auricle is, in the majority of cases, diagnostic of mitral stenosis.

OFFICE PROCEDURE IN THE DIAGNOSIS OF SQUINT

A. E. MEISENBACH, JR., M. D.
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The purpose of this paper is to emphasize the importance of diagnosis in the treatment of squint cases and to refresh our minds on the large number of complicating factors which often enter the picture. The proper evaluation of these complicating factors is fundamental to obtaining satisfactory results. When not cured the patient is handicapped physically and psychologically, that is to say, mentally. The social and economic handicap is also yearly becoming more significant.

"Monocular vision may well serve individuals who do not know the transcendant value of stereoscopic single vision which affords the priceless ingredients of spontaneous appreciation of form, speed, distance and direction," Kirby[4] stated. These highest attributes of the human eye can only be achieved through painstaking efforts coupled with an early diagnosis. Through early diagnosis the child may be placed under treatment as soon as the squint develops, no matter what the age.[9]

In order for the ophthalmologist to have an opportunity to effect a cure, not only must the diagnosis be early, but the parents must be sufficiently intelligent and cooperative to understand that the treatment may extend over a period of years. There are four steps in the treatment of any squint case and from any one to all four may be necessary to effect a cure. These four steps are (1) refractions; (2) the temporary wearing of glasses at an early age, even at 1 year if necessary; (3) orthoptic training; and (4) surgery, should it be necessary, as early as 2 years of age.

When the eyes have not been restored to normal binocular vision without glasses, the squint cannot be said to have been cured. Merely a straight appearing eye, if there is no restoration of function, is not a cure; it is only a cosmetic result. Some cases are incurable with present knowledge and according to the above criteria. The majority are curable if the patient can be taken under treatment while very young. Every effort should be made to cure these children before they enter school. It is cruel to send a child to school with a strabismus. Almost invariably it results in a psychosis which lasts throughout life. Such patients are never normal mentally, for even though it may be well covered up the psychosis nevertheless is present subconsciously and affects many of the patient's actions.[9]

It is thus apparent that a squint is a major crippling and should receive the most serious consideration at once. Treatment should begin as soon as the first evidence of the squint is apparent. To wait may make the case incurable.

The cure is difficult, requires a long time and expert knowledge on the part of the ophthalmologist and the orthoptist, and confidence and cooperation on the part of the parents. Without the latter the case will hardly be cured.

It should be emphasized that squint is rarely a muscular anomaly in the beginning; it is a disturbance of the convergence or divergence systems. Most often the vertical deviations in the beginning are of paretic origin. Since squint is a symptom complex, before it can be treated it must be diagnosed.

The manner in which a squint develops is usually as follows: An esotropia develops out of a simple convergence-excess, to which is added a divergence-insufficiency; an exotropia develops out of a simple divergence-excess to which is added a convergence-insufficiency. These changes do not take place in the muscles themselves, but undoubtedly are central in origin and follow Sherrington's law that excessive stimulation of the center for one movement produces inhibition of the center for the opposing movement, and vice versa. In other words, in convergence-excess the center for convergent movement, being subjected to continuous overstimulation, becomes more and more active, producing a continually greater and greater inhibition of the center for divergent movements. As a result there is ultimately added to a convergence-excess, a progressive divergence-insufficiency. It is only late in the course of the condition that the persistent stimulation of the internus, coupled with the maintenance of one eye in the forced inward position, produces hypertrophy or contracture of this muscle and stretching or atrophy of its opponents.[3]

A moderate proportion of cases do, however, develop out of a true muscular defect.

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Such is the case in a primitive paralysis of the abducens or primitive weakness of the externi or overdevelopment of the interni. Also a congenital insufficiency of the superior rectus may be the starting point of an esotropia or an exotropia.[3]

Let us assume that a 5-year-old child with a 25 degree convergent squint comes into the office. That statement does not constitute a complete diagnosis, nor does it give any indication of what treatment is indicated. The 25 degree convergent squint may be:

1. Associated with emmetropia, hyperopia, myopia or astigmatism; there may be normal vision or varying degrees of amblyopia.
2. Purely accommodative. It may be a periodic comitant squint produced by an anomaly of convergence or divergence only, or a continuous comitant squint, produced by an anomaly of convergence combined with one of divergence.
3. Purely mechanical, purely fusional, purely innervational, or a combination of these.
4. Associated with a strong or a weak fusion sense.
5. Complicated with a vertical deviation.
6. Associated with positive or negative angle kappa.
7. Associated with epicanthus.
8. Associated with facial asymmetry.

It might be well to discuss briefly the significance of the angle kappa and its relationship to squint. The angle kappa is formed by the intersection of the line of fixation (visual line) and the pupillary axis. This has an important bearing on the measurement of a squint and may give the appearance of a divergent or convergent squint when the angle is positive or negative as the case may be. It is measured best on the perimeter using the ophthalmoscope light as the point of fixation. The center of the corneal reflex area is noted. If the reflex is to the inner side of the pupillary area, the light is moved templeward until the reflex is in the center of the cornea. In this case the angle is positive and is read off the perimeter. If the reflex is to the outer edge of the pupil, the light is moved nasalward and the angle kappa is negative.

A positive angle kappa gives the appearance of a divergent squint; a negative angle kappa gives the appearance of a convergent squint. If a convergent squint is under investigation, a positive angle kappa will tend to decrease the squint and a divergent squint will seem greater than it actually is. The converse is true. A negative angle kappa will increase the degree of squint if convergent and decrease it if divergent. In the majority of cases a positive angle kappa is found in hypermetropia and a negative angle kappa in myopia.

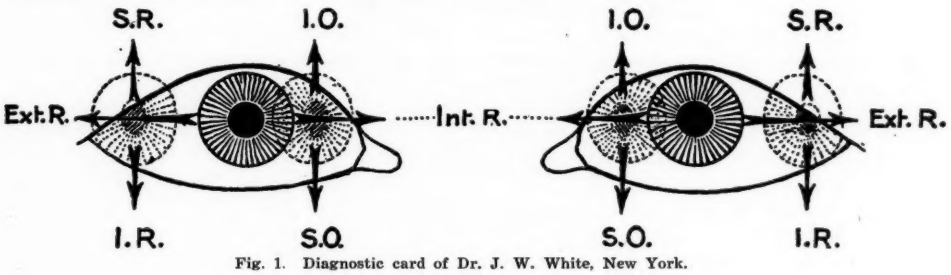

Fig. 1. Diagnostic card of Dr. J. W. White, New York.

ROUTINE OFFICE PROCEDURE

It is not the purpose of this paper to discuss in detail all the eight factors listed above as of importance in the diagnosis of squint, but rather to emphasize the many factors which have to be evaluated in each case if a proper diagnosis is to be made.

1. First and foremost is a careful history. Frequently one or both parents may be the first to notice an accommodative squint which usually at first is intermittent and can be elicited by getting the child's attention. To determine the influence of accommodation, measurements are made with and without glasses for both distance and near when accommodating and after the accommodation has been paralyzed for three days with atropine. Usually the longer a deviation has been present the more likely there are to be structural changes as well as an anomalous sensorial relationship, the so-called abnormal retinal correspondence. Then also, whether the child is well and robust or frail and sickly is important. Frequently in the latter instance the ocular muscles are thin, pale, and flabby. A high angle kappa, facial asymmetry, epicanthus, and an unusually wide or narrow interpupillary distance may give the illusion of a squint.

Some cases of squint are congenital or at least develop in the first months of life.

These are in nearly all instances due to a congenital weakness or absence of one or more of the muscles and therefore should come under the heading of paralytic squint. The ordinary esotropia develops as a rule between the ages of 1 and 4, for example, at the age when the attempt at accurate and long maintained fixation begins and thus puts a greater strain upon the accommodation. This is true not only of the ordinary type of accommodative squint, but also of the lateral squint which develops as the result of a congenital vertical deviation.[3]

2. After obtaining a history, the next step is a manifest refraction, assuming the child is able to cooperate. This process includes the vision, muscle balance, using the Maddox rod, the near point of convergence and near point of accommodation, the supravergence and infravergence, and an orthoptic status, as in White's card (fig. 1). In addition the prism convergence and divergence is obtained. This is followed after three days of atropinization by a cycloplegic refraction and measurement of the squint for distance and near with correction. The intimate relationship which exists between muscle imbalance and accommodative disturbances emphasizes the importance of perfect estimation of existing refractive errors.

The Maddox Rod. This is one of the most common and frequently used tests.[1, 3] The Maddox rod is a subjective method of determining the amount of muscular imbalance (exophoria, esophoria, hyperphoria, hypophoria, and cyclophoria) and supplements the cover test with prisms. It is less valuable for the study of heterotropia, especially if abnormal retinal correspondence is present, in which case the line of light seen by the patient paradoxically may appear to pass through the point of light or nearer to it than the amount of heterotropia (as measured by the cover test with prisms) would justify if normal retinal correspondence were present.

The Maddox rod consists of one or more little cylinders of glass set in a frame. If the rod is held in front of the patient's right eye with the axis horizontal, a vertical streak of light will be seen by the patient. This is so different in appearance from the test light that the patient has no tendency to fuse it with the latter as he fuses ordinary double images. Accordingly a deviating eye tends to assume its natural position, as it would do behind the screen. If no horizontal imbalance is present, the line will appear to run through the light; if esophoria is present, it will appear to be to the right of the light; if an exophoria is present, to the left of the light. To determine hyperphoria, the rod is rotated so that the long axis is vertical. If no hyperphoria is present the line will run horizontally through the light. If, however, the patient has a right hyperphoria, the line will appear to be below the light, and if he has a left hyperphoria, the line will be above the light. The amount of deviation, whether horizontal or vertical is neutralized by prisms until the line runs through the light. This gives a fairly accurate measurement of the amount of imbalance.

The Maddox rod can also be used to measure any torsion or cyclophoria of the eye, that is, tilting of the vertical meridian to the right or the left. If there is any torsion, the number of degrees the rod has to be moved either up or down from the horizzontal meridian is the measurement of the amount of torsion. If the upper end of the vertical streak appears to be tilted nasally, extorsion is present; if the upper end of the streak appears to be tilted temporally, intorsion is present. A refinement of this test is the use of a red rod before the right, and a white rod before the left eye, both at 180 degrees. Lack of parallelism of the red and white lines indicates presence of a cyclophoria and the color will indicate whether the right or the left eye is involved. Tilting of the red streak indicates cyclophoria of the right eye; of the white streak, cyclophoria of the left eye.

A defective Maddox rod may result in inaccuracies of the findings and measurements of the deviations. The accuracy of the rod can be checked by holding it before one eye while fixing a light with both eyes open. If there is a difference in the amount of deviation between the streak of light and the test light when one surface or the other is held before the eye, a defective rod is being used. Berens has modified the Maddox rod by the incorporation of a 0.75 prism which displaces the streak of light in the direction of the apex of the prism. This rod has a handle which facilitates a rapid rotation of the disk bearing the rod (that is so the prism is first base up and then base down before the eye). This provides a means of eliminating low vertical or lateral deviations of less than 0.75 prism diopters.

Convergence Near Point. Convergence insufficiency is usually found in fatigue, anemia, debilitated patients, neurasthenia and hysteria. This insufficiency may coexist with an esophoria, the result of a divergency insufficiency. An organic paralysis of convergence is distinguished from a functional paralysis by the inability of the former to overcome the diplopia produced

by placing prisms base out before the eyes. The near point of convergence may be converted into meter angles of convergence by dividing 100 by the number of centimeters. Thus if the near point of convergence is 12.5 cm., the meter angle of convergence equals 8 (100 divided by 12.5).

Vergences. This is a measure of fusion power. Such tests cannot be made where there is marked suppression or monocular amblyopia.

Prism convergence and divergence are measured with prisms base out and in, respectively. The amount of each and the ratio of one to the other should be considered in conjunction with the convergence near point and the screen tests.

Diplopia tests are made with the glass placed in front of one eye. They cannot be used where there is uniocular vision, marked suppression, amblyopia, or false projection. The eye behind the red glass is the fixing eye and the tests are made in the various directions as in the screen test.

3. There are many other tests which can be used, for example:

The Perimeter gives a rapid estimation of the degree of arc of the squint.

In the Screen Test, the ocular movements are neutralized by the use of prisms, making the measurements in all six cardinal directions. A comparison of the deviations for distance and near in the various fields gives information of diagnostic value. Also the effect of the correction of a lateral deviation on a vertical deviation, and vice versa, aids in deciding what treatment is suited to a particular case.

Excursions and Rotations frequently give valuable information even without making actual measurements. There may be little or no restriction of movement if the paralysis is partial or if it is in a stage of recovery from the use of excessive innervation. In a recent complete paralysis of the sixth nerve restriction of movement and the primary and secondary deviations are sufficient to be diagnostic. Paralysis of the superior and inferior rectus muscles is most obvious when the eye is adducted 27 degrees. Similarly involvement of the obliques is best shown when the eye is abducted 50 degrees. The rotations should be tested binocularly, first with one eye, then the other eye fixing. Voluntary closure of the lids is usually accompanied by an involuntary upward movement of the eyeballs. This test (Bell's phenomenon) should be made because of its localizing value in cases of an elevator or elevators being involved.

The Sensorial Relationship Test, an after image test, ascertains and demonstrates the sensorial relationship of the two eyes. This test consists in alternately fixating for about ten seconds a vertical and horizontal glowing filament, the center of which is concealed by a black ring with a fixation mark. Everyone with normal retinal correspondence will see in a dark room the positive, and in a bright room the negative after images forming a cross, because the centers of both after images are situated on the foveae. In the rare cases of horror fusionis[2] there is neither normal nor abnormal sensorial correspondence, but none at all.[2]

It is not amiss to emphasize again that in all the tests described for determining muscle balance, it is manifestly important that these studies should be made before and after a cycloplegic has been used.

Now reverting back to the example we stated at the beginning of a 25 degree internal squint being under observation our tests will show whether: (1) a complete functional cure is possible; a cosmetic cure only can be obtained, or the squint is incurable in the light of present knowledge; (2) surgery only is necessary; (3) orthoptic training and surgery are indicated; or (4) orthoptic training only is necessary.

The diagnosis of a squint is often difficult, tedious, and time consuming. However, there is no greater satisfaction in the field of ophthalmology when through early diagnosis and proper treatment a child has been cured of this major disability and can again achieve the invaluable ability to use both eyes functionally with a restoration of binocular vision with stereopsis. Not only has a social and psychologic handicap been aided or cured, a contribution to the welfare of society as a whole and the family in particular has been made by removing a barrier to the proper mental outlook and attitude of an otherwise handicapped person.

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ABSTRACT OF DISCUSSION

Dr. S. N. Key, Jr., Austin: Dr. Meisenbach has properly indicated that at present our obligation includes securing, wherever possible, a functional as well as cosmetic result in cases of strabismus, as the cosmetic alone no longer represents an adequate result. He has also mentioned certain complications that often arise while an attempt is being made to obtain a successful cure. I share the preference for early, preschool treatment as I believe that early attention in itself will often preclude some of the complications.

In the light of the present working knowledge of most of us, the general plan of possible pathogenesis which was outlined is, no doubt, useful. By the papers of Adler and Burian, for example, we are being placed upon surer ground. We are definitely removed from the purely mechanistic and structural considerations of earlier days, even though our surgical measures may still seem to be so directed. A friend of mine has said that, "it isn't the telephone or the lines which are out of order, but the switchboard."

I am sure that an accurate diagnosis by the use of a battery of tests will prevent errors. I say a "battery of tests" despite the natural inclination to simplify all methods of examination because I believe a physician is sometimes and even frequently obliged to resort to a perhaps less-used trick or test in order to obtain, in a sufficiently certain fashion, information that more definitely indicates the situation at hand. For example, he is more confident as to the presence of anomalous correspondence when it is revealed by several subjective tests that are compared with the objective measurements.

Too, preferences for particular tests vary among examiners for many reasons, just as in the choice of antiglaucoma operations. For example, I have found little use for the Maddox rod in the routine examination of children, having abandoned it for the reasons Dr. Meisenbach stated. Answers are usually equivocal or absent in any tropia of some standing or amount. I have come to rely upon the after image test, the major amblyoscope, and the Lancaster red-green test for subjective measurements (from 3 years of age upwards), and the screen or cover prism test, Priestly Smith tape, and again the major amblyoscope for objective determinations.

Dr. Meisenbach has also properly stated that the complete examination includes measurements made before and after adequate cycloplegia. Like him, I also prefer several days' use of atropine or scopolamine, and do not feel sure of refractions in children with less than this routine. This is mentioned in the face of the assertion by some that such use of a cycloplegic drug is unnecessary or even superfluous. I also customarily make a somewhat longer exposure per eye when performing the after image test, than the period of time suggested by the essayist. And I frankly do not see how it is possible to make too much use of the cover-prism test.

I was interested to hear that Dr. Meisenbach believes that the true cure comprises binocular vision without glasses. I have not felt inclined to encourage parents, nor permit them to be encouraged by the orthoptist, in the belief that their child will be able to forego the wearing of glasses at any precise time, if ever. I do not believe that a physician can be said to have fallen too far short of a happy ending because the child is required to wear glasses, so as to reduce the accommodative element, even after orthoptics and surgery.

Practically speaking, a serious complication may well be one or both parents. Unless one parent has some measure of insight as to the goal sought, and the general difficult path toward it, the desired end will almost assuredly not be attained. This includes the recognition that "eye exercises" are not alone a panacea. In this connection, an adequately trained orthoptic technician is of tremendous assistance for she almost routinely makes an indispensable rapport, quite aside from her many other useful appraisals and methods.

Two other complications have recently been reported by Swan, and I have been so unfortunate as to have them occur to me. The first is a failure to recognize the slow or absent progress in the child whose angle of deviation is such that the image of the object falls upon the optic papilla in the squinting eye. The second is an increase in the amount of esotropia while therapeutic occlusion is being carried out. While neither of these occurrences necessarily mean failure, they are nonetheless troublesome.

I should like to thank Dr. Meisenbach for his report, because considerations such as these definitely tend to consolidate the impressions and gains of the rest of us, coming as they do from the battleground of office practice.

Dr. Hal W. Hardin, Dallas: The various procedures outlined are well to keep in mind; however, from a practical standpoint, the method of diagnosis for use on the very young should be limited to purely objective findings that depend little, if any, on the subjective factor.

Procedures I have in mind are (1) accurate measurement, distance and near, via the Hirschberg test and if possible on the perimeter; (2) whether or not the patient will alternate and hold fixation at will, upon urging, or not at all; (3) a simple cover test in six cardinal fields to determine the involved muscles and to ascertain whether or not the eyes track in any field; and (4) fundus examination. This method establishes a base line on the first visit. A vision test is not a must because of the individuality governing this test in the small child. A second examination includes retinoscopy under atropine cycloplegia; then repetition of the above with full correction on under cycloplegia and under cycloplegia only.

The ophthalmologist is then able to catalog the strabismus as to accommodative, paretic, accommodative-paretic combination, or supranuclear, and the management can be formulated.

The question of fusion and abnormal retinal correspondence can be determined later with the synoptophore after a sense of well being has been developed with the child. This delay, however, will not alter the early classification, the decision whether to order a correction or not, or which eye to occlude.

VETERAN PATIENTS INCREASE

The number of veteran-patients hospitalized by the Veterans Administration reached an all-time high of 109,325 on March 1, the Veterans Administration has reported. This was a gain of 1,874 over the previous peak of 107,451 on February 1, and an increase of 37,612 over the 71,713 veterans hospitalized in July, 1945.

The number of veterans awaiting admission to hospitals also increased during February for the second straight month. The total on March 1 was 21,144, compared with 19,505 at the end of January and 4,329 in July, 1945. The February increase was caused almost entirely by applications from veterans with nonservice-connected disabilities.

Requests from veterans for physical examinations also reached an all-time high on February 1. The total then was 256,000.

The pending load of dental applications decreased to about 420,000 on March 1, continuing a decline that started in October, 1947.

MANAGEMENT OF INTRA-OCULAR FOREIGN BODIES

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Any patient with a history of injury of a type and severity capable of penetrating the globe deserves that the presence of an intra-ocular foreign body be suspected and this condition excluded before further treatment is given. In most cases of intra-ocular foreign bodies there is a history of having "gotten something in the eye" as a result of hammering or striking one piece of metal against another. An examination of the tools involved will usually reveal the origin of the foreign body and indicate its nature and size. A perforating wound of the cornea or sclera is presumptive evidence that a foreign body entered the eye, and it should be considered to have remained there until its presence is ruled out. The absence of a visible perforating wound, on the contrary, is not proof that a foreign body did not enter the eye. Inflamed eyes without demonstrable cause should lead the physician to suspect a foreign body in the globe.

In considering intra-ocular foreign bodies, there are two chief problems: (1) the demonstration of the foreign body, its accurate localization, and, if possible, the determination of its nature, that is, whether metallic or not, and if metallic, whether magnetic or not; (2) the choice of surgical procedure to be used in effecting its removal.

When an intra-ocular foreign body is suspected from the history and/or the physical findings, its presence is to be substantiated by direct observation and roentgenographic demonstration if possible. Foreign bodies may not be seen because of their location well forward of the equator or because lens opacity or hemorrhage obscures them from view. Metallic foreign bodies can usually be demonstrated by roentgen ray. Recently, however, I had a case in which a foreign body could be seen lying on the retina between the macula and disk—a foreign body which was later removed—but which was too small to be visualized by roentgen ray.

EXAMINATION

After eliciting the history of the case the visual acuity is recorded, followed by examination of *both* eyes. Injury to the lids with hemorrhage and edema does not indicate that the injury is confined to the lids. Inspection of the eye under direct illumination may reveal a penetrating injury of the globe, the foreign body may be seen in the anterior chamber, there may be a perforation of the iris, or there may be an injury to the lens revealing the foreign body in the lens or a traumatic cataract. A penetrating wound in the avascular portion of the globe with a subconjunctival hemorrhage, as was first brought out by Friedman, is indicative of a double perforation, the foreign body having passed through the globe to lodge in the subconjunctival tissue, resulting in hemorrhage at the point of exit. After inspection, the anterior segment should be examined thoroughly by the loupe and slit lamp, the posterior segment by the ophthalmoscope.

The results of the ophthalmic physical examination are later correlated with the roentgen findings. This investigation is relegated to the roentgenologist since the ophthalmologist usually does not have the requisite training to employ it. A roentgenogram should always be made to complete the record, even when the foreign body was seen and localization is unnecessary.

The purposes of roentgen examination, which is the basic diagnostic method in cases of intra-ocular foreign body, are (1) to detect whether or not a foreign body is in the globe and to determine its exact position in the globe if present, (2) to elicit any change in position of the foreign body in the globe after an unsuccessful attempt at its removal, and (3) to aid in locating the scleral incision at a point nearest to the foreign body.

The methods used in roentgen-ray localization may be classified as follows:

1. Simple methods. Roentgenograms taken in two or more planes, the foreign body being localized in reference to a fixed marker usually applied to the globe.

2. Stereoscopic methods. Foreign body localized by computations from pictures made by using various angulation principles.

3. Geometric methods. These depend on fixation of the globe and computing the position of the foreign body by its position relative to fixed markers a known distance from the center of the cornea.

4. Physiologic methods. These include fluoroscopy, bone free radiographs of the globe, and films following injection of substances into Tenon's capsule. The latter method, injecting oxygen by Spackman's technique, is especially useful in cases of double perforation.

5. Combinations of the above methods.

The Sweet method of localization, first described in 1898 and improved in 1909, a geometric method, still remains the most ac-

Read before the Section on Eye, Ear, Nose, and Throat, State Medical Association of Texas, Annual Session, Dallas, May 7, 1947.

curate. By its use the foreign body may be localized to within 1 mm. Localization to be of value must be accurate, for, as mentioned above, it often determines the route of extracting the foreign body and the site of the scleral incision.

Localization by other than roentgenologic methods may be accomplished by the siderоscope of Asmus, used chiefly in Germany, and the more recent Berman locator introduced into ophthalmic use by Minsky.

REMOVAL

When a foreign body has been diagnosed and localized, the next question is whether to remove it or not. It has been considered that if the foreign body is to be removed, prompt removal is important; however, the fact that it may be tolerated in the eye for prolonged periods gives ample time to consider the management of the case at hand before proceeding injudiciously. It should be borne in mind that many complications may occur with or without removal, and physicians must admit to both themselves and the patients that, as Kiele so well stated, "Although the damage was done at the moment of entrance of the foreign body, it is not undone at the moment of its exit."

It has been said that conservative treatment is more often indicated than recommended by many surgeons. Chemically inert materials such as glass, stone, lead, aluminum, stainless steel, and plastics are less irritating to the eye than copper, brass, and iron and often are well tolerated. When such inert foreign bodies are in relatively inaccessible positions or do not produce mechanical irritation or pressure, they are probably best left alone. Copper and its alloys, steel, and iron foreign bodies, on the other hand, act as irritants as a result of electrolysis and oxidation and may sooner or later result in chemical endophthalmitis. Every effort should be made to remove these as long as surgery does not cause excessive mutilation of the eye. Thorpe has expressed the belief that multiple foreign bodies, when they exceed three in number, dictate the use of conservative treatment.

The technique of removing intra-ocular foreign bodies depends upon a number of variable factors.

Anterior Chamber.—When a foreign body is in the anterior chamber, a conservative attempt should be made to remove it. When the foreign body is nonmagnetic, a keratome incision is made pointing toward the limbus and the foreign body, passing through the cornea at an angle of 45 degrees. This prevents prolapse of the iris and permits passage of forceps to grasp the foreign body. Magnetic foreign bodies are usually easy to remove, but care must be exercised to avoid injuring the lens. If the foreign body is incarcerated in the iris, it should be freed with the magnet before a corneal incision is made. Verhoeff has advised making a small curved incision at the limbus adjacent to the foreign body, regardless of its location. He stated that there is little danger of iris prolapse since the incision is small and that there is less danger of injuring the anterior lens capsule. The foreign body is then removed by a small tip of the hand magnet maneuvered externally or through the incision as indicated. Others draw the foreign body along the posterior surface of the cornea to an incision in the limbus at the 12 o'clock position; this, however, is more dangerous to the lens.

Lens.—Nonmagnetic foreign bodies in a non-cataractous lens may be allowed to remain in situ after explaining the future possibilities to the patient. If the lens is non-cataractous and the visual acuity is not diminished, the physician should likewise refrain from removing a magnetic foreign body immediately after informing the patient of its presence and explaining the probable future loss of vision. In such a case it is prudent to request consultation as a protection against undue criticism and possible malpractice action. Later, if necessary, the foreign body and lens can be removed. If the lens is cataractous when first seen, the lens and foreign body, whether magnetic or nonmagnetic, can be removed together. In this instance the lens should be removed immediately, since often there is a marked increase in intra-ocular tension due to the lens swelling.

Posterior Segment.—When the foreign body is in the posterior segment, accurate localization is most important since the site of scleral incision is determined by the position of the foreign body. A known irritating foreign body of copper or its alloys should be removed when possible. For this procedure Cross and Thorpe have devised forceps; Cross directs his with the biplane fluoroscope while Thorpe employs direct observation through his ocular endoscope. Rather than lose an eye from meddlesome interference or its resulting complications, small nonirritating nonmagnetic foreign bodies should be left in place. Preservation of useful vision or of the globe is often possible for years or for life in spite of a retained foreign body. Surgical intervention can offer no better results.

Under skillful management, the patient with a magnetic foreign body will often recover useful vision. It is in such cases that so much controversy exists concerning the route of choice for extracting the foreign body. In my opinion Stokes has given a sound aphorism: when the foreign body is in the anterior segment, it should be removed by the anterior route; when in the posterior segment, it should be removed by the scleral route. This seems reasonable since it permits the most direct approach to the object with the least possible trauma. There may be exceptions to this rule: very small particles may be drawn into the anterior chamber and removed or in cases with disorganization of the lens, when further damage is improbable, it is permissible to extract larger particles by the anterior route. When the transscleral route is to be used, if the foreign body entered through the sclera between the ciliary body and the equator, it may be removed through the wound of entrance. If, however, it entered elsewhere and lies in the region of the equator or in the posterior part of the globe, sclerotomy should be done in the meridian nearest the foreign body just anterior to the equator. When the particle is free in the vitreous body, the pars plana approach is the most desirable as it reduces the possibility of later retinal separation to a minimum.

Incision in this area is made parallel to the limbus; posterior sclerotomy is made along a radial line. Retraction sutures are placed in the sclera before the incision is started. When the incision is two-thirds of the way through the sclera, a mattress suture is placed loosely through the lips of the incision to emerge through the conjunctiva. The incision is then completed down to the choroid. It is rimmed with diathermy to guard against later retinal separation, which is reported to occur in approximately 50 per cent of cases having either an accidental or operative scleral wound. The tip of the giant magnet, with the current off, is placed in the lips of the wound but not through the choroid as this fosters infection and hemorrhage, resulting in latent retinal detachment. When the current is applied, the foreign body will usually be pulled through the retina and choroid easily since they approach the magnet in their long axis point first to emerge through the smallest possible opening compatible with their size.

AFTER CARE

It need hardly be mentioned that all patients with intra-ocular foreign bodies should be hospitalized and also that they should be kept under periodic observation indefinitely. Following sclerotomy absolute bed rest is essential. Atropine should be used early and frequently in conjunction with penicillin and sulfonamides in the hope of preventing or alleviating iritis or iridocyclyitis as a complication which occurs in nearly 50 per cent of cases. The use of tetanus antitoxin, or toxoid if indicated, is mandatory. Infection must be treated heroically by chemotherapy, foreign proteins, hot compresses, assurance of patency of the lacrimal passages, and removal of any focal infections. Where there is delayed healing or latent infection, foci of infection should be searched for and eliminated. Many cases can be successfully and promptly terminated by the removal of such foci. The physician must always remember sympathetic ophthalmia and be on the alert for signs of glaucoma. When retinal detachment occurs, it must be promptly and properly treated.

In those unfortunate cases when marked intra-ocular infection occurs the surgeon must enucleate or eviscerate the eye. Other indications for enucleation of eyes damaged by foreign bodies are:

1. When the eye is collapsed or there is extensive vitreous loss without light perception.

2. When there is laceration of the cornea and ciliary body with loss of lens and hemorrhage into the vitreous.

3. When the uninjured eye manifests irritation by photophobia, congestion of ciliary and iris vessels and cells in the anterior chamber.

4. When a blind eye becomes painful following removal of an intra-ocular foreign body.

COMMENTS AND CONCLUSIONS

The largest reported series of intra-ocular foreign bodies that I have seen was 1,800 cases, in which 98 per cent of the foreign bodies were steel. In 80 per cent of these the steel originated from the mushroomed edge of a hammer, chisel, or drill.

Infection is most likely to occur when the wound of entrance was through the cornea, and least likely to occur from a scleral wound. Fortunately the vitreous is a poor culture media. Immediate infection, if it occurs, will do so by the fifth day.

Following hemorrhage into the vitreous, retinal separation is the usual result, due to organization and contracture regardless of diathermy barrage around the scleral wound.

In the removal of the foreign body, an effort should be made to traumatize as little as possible, remembering that the more

serious complications result from trauma and infection.

There should be no hesitation in requesting consultation. Commendation is often withheld despite brilliant results—they are expected; much criticism may be proffered even though no effort is spared to save the patient's sight or eye.

The patient must be kept under observation, for the final result can be surmised better after two years than after six months. Even then, in fairness to the patient, the result can be considered only conjecture, for changes may occur still later.

Exact history, careful examination, discreet management, and complete records are essential.

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ABSTRACT OF DISCUSSION

Dr. F. H. Newton, Dallas: Exact localization is important in order that the scleral incision may be made as near as possible to the site of the foreign body, thereby avoiding, if possible, the introduction of the magnet tip into the globe. I am glad Dr. Hutchinson mentioned the diagnostic meaning of a subconjunctival hemorrhage on the side opposite the point of entrance. In such cases the physician often finds the foreign body only partly through the sclera with the larger part still within the globe; therefore removal is as imperative as if the foreign body were confined entirely within the globe. At times such a foreign body becomes lodged underneath a rectus muscle and requires retraction or resection of the muscle for extraction. The tolerance of the eye for some foreign bodies does not justify so-called brutal ocular surgery if conservative surgical measures fail to extract the object. Certainly every eye should be given a chance for survival.

Dr. W. J. Woolsey, Waco: The physician should know his problem in the management of intra-ocular foreign bodies, and, if removal is contemplated, whether he can safely do it with the equipment at his command. There is the choice between conservative treatment, which can be especially favorable in nonmetallic, chemically inert foreign bodies, and meddlesome surgery.

Large irregular shaped foreign bodies, more than from 2 to 4 mm. in the longest dimension, usually cause loss of the eye. Persons with such foreign bodies usually seek medical attention promptly, and, if magnetic, the bodies present no great technical problem in removal. The choice of treatment frequently ends in disaster and proves nothing. Infection in from twenty-four to thirty-six hours commonly determines the procedure. Medium sized foreign bodies, from a particle up to large, call for technical skill. The minute bodies tax judgment as well as skill. I have observed at least 2 patients with minute particles, presumably metallic, survive conservative treatment and retain good vision, the bodies being eventually absorbed. Harvey E. Thorpe in a survey confirmed this observation.

In localization a good point to remember is that by applying pressure with a blunt instrument over the sclera a foreign body can be ophthalmoscopically visualized far anterior. And the influence of gravity should not be forgotten.

I like the approach through the pars ciliaris for the removal of foreign bodies when at all possible. I seem to be among the few who will on occasion enter the vitreous body with an instrument for pieces of low magnetic power.

MISCELLANEOUS

COMING MEETINGS AND CLINICS

State Medical Association of Texas, San Antonio, April, 1949. Dr. Tate Miller, Dallas, President; Dr. Harold M. Williams, 1404 W. El Paso St., Fort Worth 3, Secretary.

American Medical Association, Chicago, June 21-25, 1948. Dr. Edward L. Bortz, Philadelphia, President; Dr. George F. Lull, 535 North Dearborn St., Chicago 10, Secretary.

NATIONAL AND REGIONAL

American Academy of Allergy. Dr. Will C. Sprain, New York, President; Dr. Theodore L. Squier, 424 East Wisconsin Ave., Milwaukee, Secretary.

American Academy of Dermatology and Syphilology. Dr. Clyde L. Cummer, Cleveland, President; Dr. Earl D. Osborne, 471 Delaware Ave., Buffalo, N. Y., Secretary.

American Academy of General Practice. Dr. Paul A. Davis, Akron, Ohio, President; Dr. Mac F. Cahal, 20 N. Wacker Drive, Chicago 6, Acting Executive Secretary.

American Academy of Neurological Surgery. Dr. William S. Keith, Toronto, Canada, President; Dr. T. C. Erickson, 1300 University Ave., Madison 5, Wis., Secretary.

American Academy of Ophthalmology and Otolaryngology, Chicago, October 10-15, 1948. Dr. C. H. McCaskey, Indianapolis, President; Dr. W. L. Benedict, Mayo Clinic, Rochester, Minn., Secretary.

American Academy of Pediatrics, Atlantic City, November 20-23, 1948. Dr. John A. Toomey, Cleveland, President; Dr. C. G. Grulee, 636 Church St., Evanston, Ill., Secretary.

American Association for Thoracic Surgery, Quebec, May 31-June 2, 1948. Dr. Alton Ochsner, New Orleans, President; Dr. Brian Blades, George Washington University School of Medicine, Washington, D. C., Secretary.

American Association of Genito-Urinary Surgeons, Skytop, Pa., May 12-14, 1948. Dr. C. E. Burford, St. Louis, President; Dr. Norris J. Heckel, 122 S. Michigan Ave., Chicago, Secretary.

American Association of Obstetricians, Gynecologists, and Abdominal Surgeons, Hot Springs, Va., September 9-11, 1948. Dr. Robert D. Mussey, Rochester, Minn., President; Dr. L. A. Calkins, University of Kansas Medical Center, Kansas City, 3, Secretary.

American College of Physicians. Dr. Hugh J. Morgan, Nashville, Tenn., President; Mr. E. R. Loveland, 4200 Pine St., Philadelphia 4, Secretary.

American College of Radiology, Chicago, June 20, 1948. Dr. Edwin C. Ernst, St. Louis, President; Dr. Mac F. Cahal, 20 N. Wacker Drive, Chicago 6, Secretary.

American College of Surgeons. Dr. Arthur W. Allen, Boston, President; Dr. Paul B. Magnuson, 40 E. Erie St., Chicago 11, Secretary.

American Congress of Physical Medicine, Washington, D. C., September 7-11, 1948. Dr. H. Worley Kendell, Chicago, President; Dr. Richard Kovacs, 2 E. 88th St., New York 28, Secretary.

American Dermatological Association. Dr. J. Gardner Hopkins, New York, President; Dr. Harry R. Foerster, 208 E. Wisconsin Ave., Milwaukee, Secretary.

American Gastro-Enterological Association, Atlantic City, April 30-May 1, 1948. Dr. Henry L. Bockus, Philadelphia; Dr. Dwight L. Wilbur, 655 Sutter St., San Francisco, Secretary.

American Gynecological Society, Williamsburg, Va., May 24-26, 1948. Dr. Edmund A. Schumann, Philadelphia, President; Dr. Howard Taylor, Jr., 842 Park Ave., New York 21, Secretary.

American Hospital Association, Atlantic City, September 20-23, 1948. Mr. Graham L. Davis, Battle Creek, Mich., President; Mr. George P. Bugbee, 18 E. Division St., Chicago, Executive Secretary.

American Laryngological, Rhinological and Otological Society. Dr. Lyman G. Richards, Brookline, Mass., President; Dr. C. S. Nash, 277 Alexander St., Rochester 7, N. Y., Secretary.

American Neurological Association, Atlantic City, June 14-16, 1948. Dr. George Wilson, Philadelphia, President; Dr. H. Houston Merritt, Montefiore Hospital, New York 67, Secretary.

American Ophthalmological Society, Hot Springs, Va., May 16-19, 1948. Dr. Henry C. Haden, Houston, President; Dr. W. S. Atkinson, 129 Clinton St., Watertown, N. Y., Secretary.

American Orthopedic Association, Quebec, Canada, June 3-6, 1948. Dr. Robert I. Harris, Toronto, Canada, President; Dr. C. Leslie Mitchell, Henry Ford Hospital, Detroit 2, Secretary.

American Otological Society. Dr. B. J. McMahon, St. Louis, President; Dr. Gordon D. Hoople, 713 E. Genesee St., Syracuse 3, N. Y., Secretary.

American Pediatric Society, Quebec, Canada, May 24-26, 1948. Dr. Grover F. Powers, New Haven, Conn., President; Dr. Henry G. Poncher, 1819 W. Polk St., Chicago 12, Secretary.

American Proctologic Society, Chicago, June 18-20, 1948. Dr. George H. Thiele, Kansas City, Mo., President; Dr. Vernon G. Jeurink, 1612 Tremont Pl., Denver 2, Secretary.

American Psychiatric Association, Washington, D. C., May 17-20, 1948. Dr. Winfred Overholser, Washington, D. C., President; Dr. Leo H. Bartemeier, General Motors Bldg., Detroit, Secretary.

American Public Health Association, Boston, November 8-12, 1948. Dr. Martha M. Eliot, Washington, D. C., President; Dr. R. M. Atwater, 1790 Broadway, New York 19, Secretary.

American Roentgen Ray Society, Chicago, September 14-18, 1948. Dr. J. B. Edwards, St. Louis, President; Dr. H. Dabney Kerr, University Hospital, Iowa City, Secretary.

American Society of Anesthesiologists. Dr. Edward B. Tuohy, Rochester, Minn., President; Dr. Curtiss B. Hickcox, 745 Fifth Ave., New York 22, Secretary.

American Society of Clinical Pathologists, Chicago, October 10-16, 1948. Dr. Theodore J. Curphey, Hempstead, N. Y., President; Dr. A. S. Giordano, 531 N. Main St., South Bend, Ind., Secretary.

American Surgical Association, Quebec, May 27-29, 1948. Dr. Elliott C. Cutler, Boston, President; Dr. W. M. Firor, Johns Hopkins Hospital, Baltimore 5, Secretary.

American Urological Association, Boston, May 17-20, 1948. Dr. Herbert H. Howard, Boston, President; Dr. T. D. Moore, 899 Madison Ave., Memphis 3, Tenn., Secretary.

Association of American Physicians, Atlantic City, May 4-5, 1948. Dr. A. H. Gordon, Montreal, President; Dr. H. M. Thomas, Jr., 1201 N. Calvert St., Baltimore 2, Secretary.

Central Neuropsychiatric Association, Kansas City, Fall, 1948. Dr. William C. Menninger, Topeka, Kan., President; Dr. Lee Eaton, Mayo Clinic, Rochester, Minn., Secretary.

International College of Surgeons, U. S. Chapter. Dr. Herbert Acuff, Knoxville, Tenn., President; Dr. Louis J. Gariepy, 16401 Grand River Ave., Detroit 27, Secretary.

National Tuberculosis Association, New York, June 14-18, 1948. Dr. James R. Reuling, Bayside, N. Y., President; Dr. H. Stuart Willis, 1790 Broadway, New York 19, Secretary.

Radiological Society of North America. Dr. L. Henry Garland, San Francisco, President; Dr. D. S. Childs, Medical Arts Bldg., Syracuse 2, N. Y., Secretary.

Southern Medical Association. Dr. A. LeDoux, New Orleans, President; C. P. Loranz, Empire Building, Birmingham, Ala., Secretary-Manager.

Southern Psychiatric Association. Dr. Guy F. Witt, Dallas, President; Dr. Newdigate M. Owensby, 384 Peachtree St. N. E., Atlanta, Ga., Secretary.

Southern Surgical Association, White Sulphur Springs, December 7-9, 1948. Dr. E. P. Lehmann, Charlottesville, Va., President; Dr. Alfred Blalock, Johns Hopkins Hospital, Baltimore 5, Secretary.

Southwest Allergy Forum, El Paso. Dr. Sim Hulsey, Fort Worth, President; Dr. O. E. Egbert, First National Bank Bldg., El Paso, Secretary.

Southwest Medical Association, El Paso, October 28-30, 1948. Dr. J. M. Greer, Phoenix, Ariz., President; Dr. Wickliffe R. Curtis, First National Bank Building, El Paso, Secretary.

Southwest Regional Cancer Conference, Fort Worth, October 12, 1948. Secretary, 209 Medical Arts Bldg., Fort Worth.

United States-Mexico Border Public Health Association, Nogales, Ariz., and Nogales, Mexico, 1949. Dr. Victor Ocampo Alonzo, Hermosillo, Mexico, President; Dr. M. F. Haralson, 314 U. S. Court House, El Paso, Secretary.

STATE

Texas Association of Medical Anesthetists. Dr. Robert A. Miller, San Antonio, President; Dr. Harvey C. Slocum, 928 Strand, Galveston, Secretary.

Texas Association of Obstetricians and Gynecologists, Houston, October, 1948. Dr. Warren E. Massey, Dallas, President; Dr. George Adam, 4115 Fannin, Houston, Secretary.

Texas Chapter, American College of Chest Physicians. Dr. Robert B. Homan, El Paso, President; Dr. Charles J. Koerth, Kerrville, Secretary.

Texas Club of Internists. Dr. Julian C. Barton, San Antonio, President; Dr. Charles Barrier, Medical Arts Building, Fort Worth, Secretary.

Texas Heart Association. Dr. Walter B. Whiting, Wichita Falls, President; Dr. Merritt B. Whitten, 1421 Medical Arts Bldg., Dallas, Secretary.

Texas Hospital Association. Mr. C. J. Hollingsworth, Lubbock, President; Mrs. Ruth Barnhart, 2210 Main St., Dallas, Secretary.

Texas Neuropsychiatric Association. Dr. M. J. Cooper, San Antonio, President; Dr. David Wade, 604 Capital National Bank Bldg., Austin, Secretary.

Texas Orthopedic Association, San Antonio, April, 1949. Dr. Ruth Jackson, Dallas, President; Dr. Margaret Watkins, 3629 Fairmount St., Dallas, Secretary.

Texas Pediatric Society, Dallas, October 15-16, 1948. Dr. C. B. Alexander, San Antonio, President; Dr. John E. Ashby, 3610 Fairmount, Dallas, Secretary.

Texas Public Health Association, San Antonio, February, 1949. Dr. Austin E. Hill, San Antonio, President; Mr. Earle W. Sudderth, Dallas County Health Department, Court House, Dallas, Executive Secretary.

Texas Radiological Society, Fort Worth, January 7-8, 1949. Dr. L. M. Garrett, Corpus Christi, President; Dr. R. P. O'Bannon, 650 Fifth Ave., Fort Worth, Secretary.

Texas Railway and Traumatic Surgical Association. Dr. Linwood H. Denman, Lufkin, President; Dr. Ross Trigg, First National Bank Bldg., Fort Worth, Secretary.

Texas Society for Mental Hygiene, Dallas, March 3-5, 1949. Dr. Ozro T. Woods, Dallas, President; Mrs. Elizabeth F. Gardner, 1617 Watchhill Road, Austin 21, Executive Secretary.

Texas Society of Gastroenterologists and Proctologists. Dr. George Underwood, Dallas, President; Dr. Carl Giesecke, 1602 Nix Professional Bldg., San Antonio, Secretary.

Texas Society of Ophthalmology and Otolaryngology, Fort Worth, 1948. Dr. S. N. Key, Sr., Austin, President; Dr. John L. Matthews, 929 Nix Professional Bldg., San Antonio, Secretary.

Texas Society of Pathologists, Dallas, January 30, 1949. Dr. W. W. Coulter, Sr., Houston, President; Dr. C. T. Ashworth, Southwestern Medical College, Dallas, Secretary.

Texas State Urological Society, Temple. Dr. Michael K. O'Heeron, Houston, President; Dr. E. O. Bradfield, Scott and White Clinic, Temple, Secretary.

Texas Surgical Society, Fort Worth, October 4-5, 1948. Dr. G. W. N. Eggers, Galveston, Bresident; Dr. Truman G. Blocker, University of Texas Medical Branch, Galveston, Secretary.

Texas Tuberculosis Association, San Angelo, September 24-25, 1948. F. K. Dougharty, Liberty, President; Miss Pansy Nichols, 700 Brazos, Austin, Executive Secretary.

DISTRICT

Second, Big Spring, District Society, Big Spring, May 27, 1948. Dr. R. B. G. Cowper, Big Spring, President; Dr. H. A. Briggs, Midland, Secretary.

Third, Panhandle, District Medical Society, Lubbock, October 5-6, 1948. Dr. C. E. High, Pampa, President; Dr. Kenneth Flamm, Amarillo, Secretary.

Fourth District Society, Ballinger. Dr. J. C. Young, Coleman, President; Dr. Charles F. Bailey, Ballinger, Secretary.

Fifth and Sixth Districts Society. Dr. Kleberg Eckhardt, Corpus Christi, President; Dr. Charles Tennison, Nix Professional Building, San Antonio, Secretary.

Seventh, Austin, District Society. Dr. M. I. Brown, Austin, President; Dr. David Wade, 604 Capital National Bank Bldg., Austin, Secretary.

Eighth, Ninth and Tenth Districts, South Texas, Society. Dr. T. O. Woolley, Orange, President; Dr. James Greenwood, Jr., 518 Medical Arts Bldg., Houston 2, Secretary.

Eleventh District Society, Tyler, October, 1948. Dr. Harvey Bell, Palestine, President; Dr. C. B. Young, 929 S. Confederate, Tyler, Secretary.

Twelfth, Central Texas District Society, Bryan, July 13, 1948. Dr. R. R. White, Temple, President; Dr. H. F. Connally, Jr., Amicable Bldg., Waco, Secretary.

Thirteenth, Northwest, District Society, Mineral Wells, May 11, 1948. Dr. Fred Harrell, Olney, President; Dr. S. W. Wilson, Medical Arts Bldg., Fort Worth, Secretary.

Fourteenth, North Texas, District Society, Greenville, June 8, 1948. Dr. W. I. Southerland, Sherman, President; Dr. John Bagwell, Medical Arts Building, Dallas, Secretary.

Fifteenth, Northeast, District Society, Daingerfield, Fall, 1948. Dr. W. S. Terry, Jefferson, President; Dr. James Harris, Marshall, Secretary.

CLINICS

Dallas Southern Clinical Society, Dallas, March 14-17, 1949. Miss Thelma J. Webb, Medical Arts Bldg., Dallas 1. Executive Secretary.

International Post-Graduate Medical Assembly of Southwest Texas, San Antonio, January 25-27, 1949. Dr. John J. Hinchey, 643 Moore Bldg., San Antonio 5, Secretary.

Wichita County Fall Clinical Conference, Wichita Falls, October 20, 1948. Dr. Charles H. Brown, Wichita Falls, Program Chairman.

AMERICAN COLLEGE OF PHYSICIANS

The first regional meeting of the American College of Physicians to convene in Texas was held February 27-28 in Houston. Physicians from Tennessee, Arkansas, Mississippi, Louisiana, and Texas were present. Dr. Hugh J. Morgan, Nashville, Tenn., president of the American College of Physicians, was one of the special guests and spoke on "The Role of the American College of Physicians in American Medicine" at a banquet. Dr. M. D. Levy, Houston, governor for Texas, presided at the banquet.

A program arranged by a committee consisting of Drs. James A. Greene, chairman; Hatch W. Cummings; Hugo T. Engelhardt, Paul V. Ledbetter, and Charles D. Reece, all of Houston, was presented by Texas doctors as follows:

Infectious Hepatitis—Dr. C. T. Stone, Galveston.
Perpetuation of Psychosomatic Disorders by the Physician—Dr. Edwin L. Rippy, Dallas.
Streptomycin in Treatment of Certain Forms of Tuberculosis—Dr. Daniel E. Jenkins, Houston.
Longterm Study of Retinal Vessels in Hypertensive Patients—Dr. Samuel A. Shelburne, Dallas.
Venous Catheterization of the Heart in Diagnosis of Congenital Heart Diseases—Dr. Don W. Chapman, Houston.
Unusual Diseases Affecting the Kidney—Dr. Raymond L. Gregory, Galveston.
Toxic Manifestations in Pregnancy—Dr. Louis Tobian, Dallas.
Refractory Anemias—Dr. William L. Marr, Galveston.
Nitrogen Mustard Therapy in Blood Dyscrasias—Dr. R. A. Hettig, Houston.

Dr. DeWitt H. Hotchkiss, Jr., chairman; Dr. Dolph Curb, and Dr. Ghent Graves were in charge of entertainment and arrangements.

UNITED STATES-MEXICO BORDER PUBLIC HEALTH ASSOCIATION

The sixth annual conference of the United States-Mexico Border Public Health Association was held in Laredo, Texas, and Nuevo Laredo, Mexico, March 20-22. Attendance from the United States and Mexico was almost equally divided.

The first general session was based on the theme of international cooperation. Sectional meetings were devoted to tuberculosis, venereal diseases, meningitis and other communicable diseases, sanitation, and maternal and child health. Public meetings and exhibits were arranged concurrently.

The association adopted a resolution recommending an increase in the bed capacity of hospitals on both sides of the border to care for tuberculosis patients and a closer cooperation in tuberculosis prevention and control. Another resolution commended committees organized to promote maternal and child welfare in various localities and urged closer cooperation in that field through the offices of the Pan-American Sanitary Bureau, which was also commended. The association urged those countries which have not completed their application and ratification of the World Health Organization to do so in the interest of world unity.

Dr. Hugh S. Cumming, former surgeon general of the U. S. Public Health Service, former director and now director emeritus of the Pan-American Sanitary Bureau, was elected the first honorary life member of the association.

New officers were elected as follows: Drs. Victor Ocampo Alonzo, Hermosillo, Mexico, president; George W. Cox, Austin, president-elect; Jose Angulo Araico, Mexicali, Mexico, and J. P. Ward, Phoenix, Ariz., vice-presidents; M. F. Haralson, El Paso, secretary; and Gustavo A. Rovirosa, El Paso, pro-secretary. The 1949 meeting will be held at Nogales, Ariz., and Nogales, Sonora, Mexico.

TEXAS SURGICAL SOCIETY

The spring semi-annual session of the Texas Surgical Society was held April 5-6 in San Antonio. The following scientific program was presented:

April 5

Improved Method for Treatment of Varicocele—Dr. Randolph Lee Clark, Houston.
Female Urethra—Dr. Hub E. Isaacks, Fort Worth.
Surgical Treatment of Extensive Radionecrosis and Dermatitis—Dr. Thomas D. Cronin, Houston.
Treatment of Fractures of Surgical Neck of Humerus—Dr. Charles F. Clayton, Fort Worth.
Geriatric Surgery—Dr. Howard Dudgeon, Jr., Waco.
Nodular Goiter—Dr. T. H. Thomason, Fort Worth.
Thoracic Complications of Amebiasis—Dr. Robert R. Shaw, Dallas.
Omphalocele: Case Report—Dr. Herman Dustin, Houston.
Perforation of Colon with Broomstick—Dr. Hugh C. Welsh, Houston.
Silent Gall Stones—Dr. John V. Goode, Dallas.
Cancer of Pancreas—Dr. Thomas G. Orr, Professor of Surgery, University of Kansas, Kansas City.
Management of Acute Pancreatitis—Dr. F. L. Snyder, Fort Worth.

April 6

Fistula of Urinary Bladder: Report of Unusual Case—Lt. Col. G. R. Hamilton.
Utilization of External Traction to Overcome Gaps in Peripheral Nerve Injuries—Lt. R. D. Price.
All Acrylic Positive Contact Movable Implant following Ocular Enucleation—Col. Rex. House.
Patent Omphalomesenteric Duct: Case Report—Major Edwin J. Pulaski.
Peripheral Manifestations of Costo-Vertebral Arthritis—Col. Knox Dunlap.
Blood Volume Studies in Preoperative and Postoperative Care (Chronic Shock)—Capt. F. W. Spicer, Jr.
Congenital Cavernous Hemangioma of Lung—Lt. Col. Sanford W. French.
Conservative Management in Perforated Duodenal Ulcer—Col. Sam F. Seeley.

The program April 6 was held at Brook General Hospital and was given by members of the staff. Visits to the various sections of the surgical service were conducted. Col. Paul H. Streit and Col. Sam Seeley made the arrangements.

A cocktail party and banquet the evening of April 5 featured an address on world problems by Father Stanley J. Kusman, S. M., professor of philosophy at St. Mary's University, San Antonio.

Drs. Ed Coyle, Albert W. Hartman, and Asher R. McComb were members of the local arrangements committee.

The next meeting of the Texas Surgical Society will be held in Fort Worth, October 4-5.

TEXAS RHEUMATISM ASSOCIATION

The Texas Rheumatism Association has been organized with the purpose "to stimulate interest in the general problems of rheumatic disease, to encourage the interest of physicians in this disease by postgraduate programs covering the subject, and also to advise and direct lay organizations in the matter of facilities for the care of individuals suffering from crippling disease." Plans for such an organization were initiated in January, and the election of officers was completed on April 1 by correspondence. Plans are to hold the first meeting in conjunction with the State Medical Association annual session in 1949.

The officers now serving the association are Drs. Howard C. Coggeshall, Dallas, president; Alex W. Terrell, Dallas, vice-president; and Paul J. Thomas,

Dallas, secretary. Dr. Tinsley Harrison, Dallas, and Dr. James A. Greene, Houston, are on the advisory committee. The executive committee is composed of Drs. Maurice M. Scurry, Dallas, chairman; Alfred W. Harris, Dallas, vice-chairman; Neil D. Buie, Jr., Marlin; John S. Chapman, Dallas; Charles Cornwell, Marlin; George M. Jones, Dallas; Ben A. Merrick, Dallas; Edwin L. Rippy, Dallas; Charles Shuey, Dallas; and T. Haynes Harvill, Dallas.

The nucleus of the membership is to be composed of physicians specializing in internal medicine who merit the qualifications of the American Board of Internal Medicine. The group is to become a part of the American Rheumatism Association.

AVIATION MEDICINE RESEARCH GRANT

The Air University School of Aviation Medicine, Randolph Field, has been allotted one of a limited number of special research positions authorized by Congress to attract outstanding scientists to service laboratories. The School of Aviation Medicine intends to utilize the new allocation, which carries with it a salary of from $10,000 to $15,000 per annum, to establish a civilian position for a director of research. Inquiries concerning the position should be addressed to the commandant.—J.A.M.A., April 10, 1948.

NAVAL AIR RESERVE NEEDS DOCTORS

The Naval Air Reserve Training Command, with headquarters at Naval Air Station, Glenview, Ill., has eighteen nationally located Naval Air Stations and four Naval Air Reserve Training Units at which Naval Reserve Medical Officers may serve on active duty with full pay and allowances and with the privilege of returning to civilian life at any time upon request. One of the stations is at Dallas. Additional details may be obtained from Chief of Naval Air Reserve Training, Naval Air Station, Glenview, Ill.

MEDICAL SERVICE RESERVE TO BE ACTIVATED

Authority has been granted to the Army Medical Department to place three hundred additional Medical Service Reserve officers on extended active duty immediately, Major General Raymond W. Bliss, the Army Surgeon General, has announced. Reserve officers who volunteer will be assigned to duty according to their qualifications in psychology, physiology, biochemistry, nutrition, serology, other related medical sciences, pharmacy, administration and supply, optometry, and sanitary engineering.

The recent formation of the Medical Service Corps is one phase of a long-range program designed to provide the highest possible standard of medical care for the Army with a minimum number of physicians required in administrative positions or performing duties properly belonging to medical allied sciences.

It will be noted that families with an income below $1,000 per year have nearly four times as much disability from tuberculosis, nearly three times as much disability from orthopedic impairments, and approximately twice as much nervous diseases as families with incomes over $5,000. For relief families, the ratio rises to nearly ninefold for tuberculosis, and fourfold for orthopedic impairments, between threefold and fourfold for rheumatism and digestive diseases. Considering all causes of disability together, the group with incomes under $1,000 shows 66 per cent more disability and the relief group shows 155 per cent more than the families with incomes over $5,000.—C. E. A. Winslow, D. Sc., Am. J. Pub. Health, Jan., 1948.

LIBRARY NOTES

PACKAGE SERVICE

The package library consists of collections of reprints and other periodical material on various subjects, prepared for lending to members of the Association. Requests for packages should be addressed "Library, State Medical Association of Texas, 1404 W. El Paso Street, Fort Worth 3, Texas." Twenty-five cents in stamps should be enclosed with the request to cover postage and part of the expense of collecting the material. Packages are allowed to remain in the hands of the borrower for 14 days.

ACCESSIONS

The following additions were made to the Library during April:

Reprints received, 707.

Journals received, 217.

Books received, 9.

Baltimore, Williams and Wilkins Company—Novak: Textbook of Gynecology; Kelly: Encyclopedia of Medical Sources.

St. Louis, C. V. Mosby Company—Morehouse and Miller: Physiology of Exercise.

W. B. Saunders Company—Dowling: The Acute Bacterial Diseases, Their Diagnosis and Treatment; Todd and Sanford: Clinical Diagnosis by Laboratory Methods.

Washington, Washington Institute of Medicine—Bergler: The Battle of the Conscience.

Montreal, Canada, Université de Montreal—Selye: Textbook of Endocrinology.

SUMMARY OF SERVICE

Local users, 49.	Borrowers by mail, 36.
Items consulted, 213.	Packages mailed, 40.
Items taken out, 207.	Items mailed, 407.

Total number of items consulted and loaned, 827.

MOTION PICTURE FILM LIBRARY

Motion picture films on medical subjects, 16 mm., both silent and sound, some in color, and suitable for either medical or lay audiences, are available for loan to county medical societies, hospital staffs, or individual physicians, on request. Borrowers will be required to pay only the cost of shipment of the films, by express, with insurance, and for any damage to films while in the hands of the borrower.

Requests for films should be addressed to "Motion Picture Film Library, State Medical Association of Texas, 1404 West El Paso Street, Fort Worth 3, Texas." A list of available films, with descriptions, will be furnished on request.

The following motion picture films were loaned by the Film Library during April:

Accent on Use (National Foundation for Infantile Paralysis)—Dr. P. M. Nesbit, Arlington.

Accident Services (British Information Services)—Coffey Clinic, Fort Worth.

Adolescence, Introduction to (Mead Johnson)—Dr. D. R. McMillin, Lampasas.

Analgesia, Continuous Caudal (Becton-Dickinson Co.)—Dr. P. M. Nesbit, Arlington, and West Texas Hospital, Lubbock.

Anemia, Erythroblastic (Mead Johnson)—Tarrant County Medical Technicians Society, Fort Worth, and Scott and White Hospital, Temple.

Anemias, The (Lederle Laboratories)—Dr. Alan Ulert, Houston, and Hermann Hospital School of Nursing, Houston.

Anesthesia, Regional (Winthrop)—Coffey Clinic, Fort Worth, and St. Joseph's School of Nursing, Houston.

Another to Conquer (Texas Tuberculosis Association)—Dr. A. W. Brazda, Ranger.

Antitoxins, Globulin Modified (Lederle Laboratories)—Dr. P. M. Nesbit, Arlington.

Appraisal of the Newborn (Mead Johnson)—University of Houston, Houston.

Appendicitis in Childhood (Mead Johnson)—Dr. Alan Ulert, Houston.

As Others See Us (American Hospital Associa-

tion)—St. Joseph's Hospital, Fort Worth; State Tuberculosis Sanatorium School of Nursing, Sanatorium; Stephenville Study Club, Stephenville; St. Joseph's School of Nursing, Houston; and Tarrant County Medical Technicians Society, Fort Worth.

Athletic Injuries, Care of (Becton-Dickinson Company)—Lamar College, Beaumont.

Back to Normal (British Information Services)—South Side School, Arlington.

Bleeding Tendency (Mead Johnson)—Tarrant County Medical Technicians Society, Fort Worth.

Blood Transfusion (British Information Services)—Dr. P. M. Nesbit, Arlington.

Breech Extraction (Mead Johnson)—Dr. G. Mitchell, McKinney.

Cataract Surgery (Dr. Ray K. Daily)—Coffey Clinic, Fort Worth, and St. Joseph's School of Nursing, Houston.

Caesarean Section (Mead Johnson)—West Texas Hospital, Lubbock; North Texas Agricultural College, Arlington; and F. A. Orgain Hospital, Bastrop.

Cholecystectomy (Mead Johnson)—Dr. Ted Lace, Fort Worth.

Cloud in the Sky (Texas Tuberculosis Association)—South Side School, Arlington.

Conquering Darkness (Hurst Clinic)—St. Joseph's School of Nursing, Houston, and Coffey Clinic, Fort Worth.

D. D. T., The Story of (British Information Services)—South Side School, Arlington.

Diphtheria and Croup (Lederle Laboratories)—St. Joseph's School of Nursing, Houston.

Eyes for Tomorrow (Hurst Clinic)—Coffey Clinic, Fort Worth, and Westbrook P. T. A., Westbrook.

Eyes, Your Children's (British Information Services)—Coffey Clinic, Fort Worth.

Folvite in Anemia (Lederle Laboratories)—Collin County Medical Society, McKinney.

From Moo to You (Borden Company)—South Side School, Arlington, and Dr. P. M. Nesbit, Arlington.

Hematology, Animated (Armour Laboratories)—North Texas Agricultural College, Arlington; Methodist Hospital School of Nursing, Houston; and St. Joseph's Hospital, Fort Worth.

Human Fertility (Ortho-Products)—Smith County Medical Society, Tyler, and Dr. G. Mitchell, McKinney.

Hysterectomy (Mead Johnson)—Dr. Ted Lace, Fort Worth; Dr. Alan Ulert, Houston; and Coffey Clinic, Fort Worth.

Immunization Against Infectious Diseases (Lederle Laboratories)—Dr. A. W. Brazda, Ranger; Dr. P. M. Nesbit, Arlington; Lamar College, Beaumont; and Dr. Alan Ulert, Houston.

Let My People Live (Texas Tuberculosis Association)—Nocona Rotary Club, Nocona.

Magic Bullets (U. S. Public Health Service)—Texas Wesleyan College, Fort Worth.

Mastoid Surgery (Dr. Louis Daily)—Dr. P. M. Nesbit, Arlington.

Multiple Pregnancy (Mead Johnson)—F. A. Orgain Hospital, Bastrop.

Nasal Sinusitis (E. Fougera)—Coffey Clinic, Fort Worth.

Normal Delivery (Mead Johnson)—University of Houston, Houston, and F. A. Orgain Hospital, Bastrop.

Pasteur's Legacy (Modern Film Corporation)—F. A. Orgain Hospital, Bastrop.

Premature Infant, The Care of (Mead Johnson)—University of Houston, Houston.

Psychiatry in Action (British Information Services)—U. S. Public Health Service Hospital, Fort Worth.

Report to the People (National Foundation for Infantile Paralysis)—Stephenville Study Club, Stephenville.

Scarlet Fever (Lederle Laboratories)—City Health Department, Fort Worth.

This Is TB (Texas Tuberculosis Association)—Stephenville Study Club, Stephenville; Dr. P. M. Nesbit, Arlington; and Nocona Rotary Club, Nocona.

Tuberculosis, Diagnostic Procedure in (Texas Tuberculosis Association)—State Tuberculosis Sanatorium School of Nursing, Sanatorium.

They Do Come Back (Texas Tuberculosis Association)—State Tuberculosis Sanatorium School of Nursing, Sanatorium.

Time Is Life (American Cancer Society)—Sanderson P. T. A., Sanderson, and Pilot Club, Orange.

The Traitor Within (American Cancer Society)—Pilot Club, Orange, and P. T. A., Sanderson.

Trichomonal and Monilial Vaginitis (G. D. Searle Company)—Collin County Medical Society, McKinney.

Trichomonal Vaginitis and Leukorrhea (Dr. K. J. Karnaky)—St. Joseph's Hospital, Fort Worth.

Underwater Therapy—Dr. F. O. McGehee, Houston.

Uterosalpingography (E. Fougera)—Dr. Alan Ulert, Houston, and West Texas Hospital, Lubbock.

Varicose Veins and Their Complications (Becton-Dickinson Company)—Smith County Medical Society, Tyler.

When Bobby Goes to School (Mead Johnson)—P. T. A., Westbrook.

You Are the Switchman (American Cancer Society)—Pilot Club, Orange, and P. T. A., Sanderson.

BOOK REVIEWS

[1]**Histopathologic Technic.** By R. D. Lillie, A. B., M. D., Medical Director, U. S. Public Health Service; Chief, Pathology Laboratory, National Institute of Health. Cloth, 300 pages. Price, $4.75. Philadelphia and Toronto, The Blakiston Company, 1948.

This excellent book, by an internationally recognized authority on histopathology in general and stains in particular, fills a long felt need. In fewer than 300 pages he clearly details nearly all the recent and established tissue techniques of the modern histology laboratory. The section on general oversight methods includes only a few of the many general techniques. In the special section, a conspicuous omission is the absence of any discussion of the recently popularized Papanicolaou techniques. An indigenous paraffin impregnating vacuum oven is described but no mention is made of the rapid decalcification of bone by the same vacuum principle.

While the author is obviously impartial in presenting various techniques, he does occasionally use the first person singular to enliven the treatise and give the reader the benefit of his many years of distinguished service as chief pathologist of the USPHS. A useful addition to the book is a detailed and highly practical section on microscopy as well as an equally useful chapter on equipment. This book is a "must" for pathologic anatomists and histology technologists.

[2]**May's Manual of the Diseases of the Eye.** For Students and General Practitioners. Edited by Charles A. Perera, M. D., Assistant Clinical Professor, College of Physicians and Surgeons, Columbia University, New York; Assistant Attending Ophthalmologist, Presbyterian Hospital, New York. 19th edition, revised. Cloth, 521 pages. With 387 illustrations, including 32 plates, with 93 colored figures. Price, $4. Baltimore, Williams & Wilkins Company, 1947.

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[1]Reviewed by John J. Andujar, M. D., Fort Worth.
[2]Reviewed by Henry L. Hilgartner, Jr., M. D., Austin.

May's "Diseases of the Eye," as in the past, is a splendid practical textbook for the general practitioner, as well as the ophthalmologist. The new edition has some new colored plates which are excellent.

This book is a good buy for specialist and general practitioner alike.

[3]**The Foot and Ankle.** Their Injuries, Diseases, Deformities and Disabilities. By Philip Lewin, M. D., F. A. C. S., Associate Professor of Bone and Joint Surgery, and Acting Head of the Department, Northwestern University Medical School. 3rd edition, thoroughly revised. Cloth, 847 pages. Illustrated. Price, $11. Philadelphia, Lea & Febiger, 1947.

The author states in his foreword that he has attempted to do for the foot and ankle what Kanavel did for the hand, and none will question that he has.

All foot and ankle conditions that might present themselves to the general practitioner or specialist are covered in considerable detail. A complete bibliography is given at the end of the final chapter. New material has been added, most of it as the result of information gained from World War II. This includes chemotherapy, mass injuries, transportation of the wounded, circulatory lesions, bone grafting, vascular lesions, and plastic rehabilitation.

Of more interest to the civilian practitioner is the chapter on club foot. Several of Kite's original pictures are included, and his general outline of treatment is followed. Denis-Browne splints are also described and listed among the conservative types of treatment.

Subjects given additional emphasis in this edition are compound fractures, crushing injuries, and osteomyelitis. The accepted methods of conservative and reconstructive treatment are listed and are in somewhat the following order: (1) what to do, (2) when to do it, and (3) what not to do.

Many physicians will find that this book makes a valuable addition to their libraries.

[4]**Unipolar Lead Electrocardiography,** including Standard Leads, Unipolar Extremity Leads and Multiple Unipolar Precordial Leads. By Emanuel Coldberger, B. S., M. D., Adjunct Physician, Montefiore, New York. Cloth, 182 pages, with 88 illustrations. Price, $4. Philadelphia, Lea & Febiger, 1947.

This is a book essentially for those interested in electrocardiography. It is a convincing and practical recitation of the author's investigations in unipolar electrocardiography. He points out the advantages of multiple leads both precordial and limb leads. Such multiple leads help in diagnosing positional changes, ventricular hypertrophy, bundle branch block, and small myocardial infarctions. The augmented unipolar limb leads are of advantage because of the increased amplitude of the deflections.

Like so many books on electrocardiography, the physics underlying electrocardiographic changes is too fully treated, and the examples of tracings illustrative of underlying disorders are too few.

[5]**Diabetes Mellitus in General Practice.** By Arthur R. Colwell, M. D., Associate Professor of Medicine and Director of Medical Specialty Training, Northwestern University Medical School. Cloth, 350 pages. Price, $5.25. Chicago, The Year Book Publishers, Inc., 1947.

This is an excellent book on diabetes. It is brief and the reading time should be acceptable to those who are busy in the practice of medicine. The known facts about diabetes are brought up to date and the clinical application is clearly outlined. Statistics have been omitted and this feature adds a great deal to the readability of the book. The chapter on treatment with insulin and its modifications is especially valuable because it is so concise and indications for the use of the various modifications are clearly outlined. "Acute and Chronic Complications and Their Treatment" is also a valuable chapter. It makes possible a clearer understanding of diabetes in relation to the acute and chronic complications as well as the emergencies arising in the course of management.

I recommend this book as one of great value to the general practitioner who is too busy to read the more prolonged and detailed books on this subject.

[6]**Anson Jones, the Last President of Texas.** By Herbert Gambrell. Cloth, 462 pages. Price, $5. New York, Doubleday & Co., 1948.

A Massachusetts farm boy, poor in pocket, sparse in spirit, and weak in body, presents a drab picture, indeed. With the pen of the historian and writer Herbert Gambrell to help him, however, this poor boy's life takes on interest, color, and romance.

The last president of the Republic of Texas was pushed into the study of medicine much against his will. His lack of initiative and his early bent for failure caused him to take down his shingle several times and to change his profession once. It was not until after he had practiced medicine in South America that he gained enough self-confidence to make real progress. But even this success was short lived.

A new era started for Anson Jones in 1833 when he sailed from New Orleans for Texas. Just as he was beginning to be a successful practitioner of medicine, the revolution changed his course again. The author displays excellent literary skill in depicting the vagaries of the fortunes of Anson Jones and the young republic. This country doctor became a moving force in shaping the affairs of state for Texas, and played an important but misunderstood part in the annexation movement. Even in politics the specter of failure hovered over him from time to time.

Physicians of Texas will read with interest this account of one of their profession who closed the books for the Republic of Texas, lowered its flag, and raised in its place the stars and stripes.

[3]Reviewed by I. J. Van Zandt, M. D., Fort Worth.
[4]Reviewed by Ghent Graves, M. D., Houston.
[5]Reviewed by Roland F. Knox, M. D., Wichita Falls.
[6]Reviewed by Elliott Mendenhall, M. D., Dallas.

NEWS

Contributions to this department will be appreciated. News should be of general medical interest, such as public health activities, new hospitals, personal items of more than local value, etc. News for a particular number of the JOURNAL should be in the hands of the Editor not later than the fifteenth of the preceding month.

A Veterans Administration Hospital at Marlin has reached the stage of having bids received for construction, reports the Veterans Administration. The 200-bed general medical and surgical hospital will include a main hospital building, manager's quarters, apartment building to serve as quarters for the staff, nurses' quarters, attendants' quarters, and various other divisions.

The Houston Surgical Society presented Dr. Alfred Blalock, professor of surgery at Johns Hopkins University Medical School, Baltimore, in a lecture in Houston on April 16. The lecture was attended by trustees of the various units to be located in the Texas Medical Center, Baylor University College of Medicine students, and Harris County physicians, and was open to the public. The following day Dr. Blalock addressed a luncheon group invited by the

Houston Chamber of Commerce committee on education, reports the Houston *Chronicle*.

The M. D. Anderson Hospital for Cancer Research, Houston, has announced the appointment of Dr. Charles L. Spurr, formerly of the University of Chicago, as internist and director of the clinic, and Dr. Gilbert H. Fletcher as radiotherapist. Dr. Fletcher served as a traveling fellow for the Anderson Hospital, touring hospitals in Europe to observe methods of radiation therapy, before becoming a permanent member of the staff.

A federal grant of $395,000 to the M. D. Anderson Hospital has been delayed because of failure to reach an agreement on how it will be used, according to the Houston *Post*. The National Advisory Council on Cancer, which recommended the grant to the U. S. Public Health Service, distributor of the funds, expected the money to be used for research. The Anderson Hospital has planned to use it for graduate study. Dr. R. Lee Clark, Jr., director of the hospital, believes the matter can be worked out satisfactorily, and the money is being held pending a conference between Dr. Clark and the advisory council.

The University of Texas has received formal allocation of approximately twenty-two acres of land in the Texas Medical Center for use as the site of the M. D. Anderson Hospital for Cancer Research and the University of Texas Dental Branch, construction on both of which is expected to begin late this year, and the School of Public Health and the Preceptorial Training Center. Dr. E. W. Bertner, president of the Texas Medical Center, presented a letter allocating the land to Dudley K. Woodward, chairman of the board of regents of the University, on April 1, when the regents were in Houston to inspect the present facilities of the Anderson Hospital, the Dental Branch, Baylor University College of Medicine, and the sites for the Texas Medical Center buildings, the Houston *Chronicle* informs.

A student union building to include a gymnasium, meeting rooms, and other facilities for social and recreational activities has been approved by the University of Texas board of regents for the Medical Branch in Galveston, the Galveston *Tribune* reports, and a campaign for contributions for the structure has been authorized.

The first hearing clinic in Texas was opened in March at the University of Texas Medical Branch under the direction of Dr. F. R. Guilford, according to the Galveston *Tribune*. The clinic provides diagnosis and treatment for paying and indigent patients.

The physiology laboratory of the University of Texas School of Medicine has been named the Carter Physiology Laboratory in memory of Dr. William Spencer Carter, the Galveston *Tribune* states. Dr. Carter was the first professor of physiology at the Medical Branch, coming there in 1897. He was dean of the Medical Branch from 1903 until 1922 and again from 1934 until his retirement in 1938.

A grant of $6,300 to support research on the cardiovascular effects of carnosine and the metabolism of carnosine in cardiovascular disease under the direction of Dr. George A. Emerson, professor of pharmacology, has been received by the University of Texas Medical Branch. The grant was awarded by the Life Insurance Research Fund, New York.

Dr. Edgar Grunewaldt, graduate student at the Medical Branch, has received a $1,000 grant from the American Association for the Advancement of Science in recognition of his work in the tissue culture laboratories, the Galveston *Tribune* informs.

Recent speakers on the University of Texas Medical Branch campus have been Dr. Frank Glenn, professor of surgery at Cornell University, New York, and Dr. Karl H. Beyer, director of pharmacological research for Sharpe & Dohme, Philadelphia.

Baylor University College of Medicine is reorganizing the Fifty-Sixth Evacuation Hospital with Dr. Warren T. Brown, associate dean, as commanding officer, according to the Houston *Chronicle*. The reserve unit was first activated when the medical school was in Dallas.

The freshman class of Baylor University College of Medicine for the term beginning in September is already full and no more applications will be accepted, reports the Houston *Chronicle*. Dean Walter H. Moursund has announced that 90 students out of 755 applicants will be admitted.

Dr. Frank Glenn, professor of surgery at Cornell University, New York, delivered the second in the series of lectures sponsored by the Phi Chi Benefit Association at Baylor University College of Medicine on April 7, reports the Houston *Post*.

Southwestern Medical College, Dallas, will hold commencement exercises June 7 with Dr. M. E. Sadler, president of Texas Christian University, as the speaker. Dr. Merton M. Minter, San Antonio, will deliver the Ho Din oration made in connection with an award to an outstanding student. Fifty-one candidates for the degree of doctor of medicine are expected to receive degrees conferred by Dr. E. H. Cary, president.

The Life Insurance Medical Research Fund, New York, has awarded Southwestern Medical College $5,565 to be used by Dr. Arthur Grollman for research on the pathogenesis and treatment of hypertension.

Two weeks of advanced study of the diseases of the chest were held in Dallas in April under sponsorship of the American Trudeau Society and Southwestern Medical College. Dr. Robert Shaw and Dr. H. Frank Carman made the arrangements for the course, one of four held throughout the nation under the auspicies of the Trudeau Society.

Dr. Don P. Morris, associate professor of neuropsychiatry at Southwestern Medical College, has been appointed director of the Dallas Community Guidance Clinic, and Dr. John C. Montgomery, assistant in neuropsychiatry, has been named assistant to the director. A Community Chest agency, the clinic was under the directorship of Dr. Eugene L. Aten from 1938 until his resignation March 3.

Personals

Dr. Talma W. Buford, Pattonville, has been awarded $250 for distinguished service in mental health work by the Hogg Foundation for Mental Hygiene, reports the Austin *American*.

Dr. Margaret Watkins, Dallas orthopedic surgeon, was selected to receive the fifteenth Zonta Service Award, given annually by the Dallas Zonta Club to a Dallas woman who has made a distinctly constructive contribution to the community or who has signally advanced the cause of women. The Dallas *News* indicates that Dr. Watkins was chosen primarily because she has given so generously of her time and money in establishing the Cerebral Palsy Center and the Aphasia Center and in forming the Cerebral Palsy Parents League.

Dr. Henry M. Winans, Dallas, will be a guest speaker at the meeting of the Kansas Medical Society in Wichita, May 10-13, reports the Dallas *Medical Journal*.

Dr. William F. Guerriero, Dallas, participated in the program of the gynecological section at the Louisiana State Medical Society's annual meeting in Monroe, April 12-14, the society reported.

Marriages

Dr. Ernest Wright married Miss Clye Kersey in Houston in March.

Dr. Myrick Neal Triplett married Miss Mary Elizabeth Lockey in Palestine, on March 28.

BIRTHS

To *Dr. and Mrs. M. Valls*, Laredo, a son, March 22.

To *Dr. and Mrs. Robert Rowland*, Fort Worth, a son, Robert Brant, March 8.

SOCIETY NEWS

Burnet-Lampasas-Llano Counties Society

March 23, 1948

Burnet-Lampasas-Llano Counties Medical Society met March 23 at the home of Dr. and Mrs. Joe A. Shepperd, Burnet. Officers were elected as follows: H. J. Hoerster, Llano, president; H. B. Rollins, Lampasas, vice-president; and George B. Marsh, Burnet, secretary-treasurer. Speakers were George B. Marsh, Burnet; Beth Hill, Marble Falls; and R. T. Wilson, W. M. Gambrell, and Raleigh Ross, Austin.

Brazoria County Society

March 25, 1948

(Reported by A. O. McCary, Secretary)

Use of Para-Aminobenzoic Acid in Treatment of Rickettsial Disease (lantern slides)—George Salmon, Houston.
Care of the Newborn—Theodore Panos, Galveston.

The scientific program outlined was presented when members of the Brazoria County Medical Society and their wives and dentists of the county and their wives met March 25 in Freeport for a steak dinner as guests of the Freeport doctors. Approximately forty members were present. Members of the auxiliary met separately following the meal.

Colorado-Fayette Counties Society

March 30, 1948

(Reported by C. I. Shult, Secretary)

Problem Child (motion picture).

Thirteen members, their wives, and two guests were present for the March 30 meeting of Colorado-Fayette Counties Medical Society in LaGrange. Leslie Boelsche, LaGrange, was in charge of the program, which consisted of a motion picture.

The business meeting was devoted primarily to a discussion of medical ethics and State Medical Association problems.

Upon motion by Fred W. B. Rockett, Flatonia, seconded by Dr. Boelsche, the society voted to elect officers at the time of the regular January meeting each year, to take office at that time, and to continue the present officers in office until January, 1949.

Upon suitable motion, the delegate to the State Medical Association was instructed to uphold the passage of a basic science act in the Legislature at the earliest possible date, to oppose the establishment of associate memberships with reduced dues in the State Medical Association, to favor removal of the state headquarters from Fort Worth to Austin, and to recommend passage by the Legislature of more uniform health laws concerning foodhandlers, barbers, and marriage certificates.

Leland Frank Zatopek, LaGrange, was elected to membership upon application.

Dallas County Society

March 11, 1948

(Reported by W. W. Fowler, Secretary)

Surgical Aspects of Peripheral Vascular Disease—Geza DeTakats, University of Illinois Medical School, Chicago.

Dallas County Medical Society met March 11 in Dallas to hear Geza DeTakats, professor of surgery at the University of Illinois Medical School. One hundred twenty-one were present.

During the business session, the society adopted a report of the public relations committee recommending (1) that the society remind individual physicians of their importance in creating good or ill will among patients, (2) that efforts be renewed to enlist the support of a greater percentage of members in its activities, (3) that full support be given the Dallas Health Museum, (4) that the society sponsor a series of weekly radio programs to arouse interest in medical problems, (5) that favorable relations with the press be established and maintained, (6) that cooperation be offered the *Daily Times-Herald* in presenting a special medical section, and (7) that the society express its desire to cooperate with the public relations program of the State Medical Association.

Four members were elected upon application and two upon transfer.

A resolution in tribute to the late Dr. Florence Widney Austin, Dallas, was adopted.

March 25, 1948

(Reported by W. W. Fowler, Secretary)

Treatment of Chronic Otitis Media and Mastoiditis—L. M. Sellers, Dallas.
Diagnosis and Treatment of Intervertebral Disk—C. C. Nash and Casey Patterson, Dallas.
Treatment of Poison Ivy Dermatitis—J. B. Howell, Dallas.
Lymphocytic Choriomeningitis—Fred Brooksaler, Dallas.

The scientific program outlined was presented for fifty-nine members of the Dallas County Medical Society meeting March 25 in Dallas.

Following a discussion by Sol Haberman, Ph. D., of the American Association of Blood Banks, the society voted to endorse the association.

Resolutions of tribute to the late Dr. J. Forest Buchanan, Dallas, and the late Dr. Hal W. Hardin, Dallas, were adopted.

Johnson County Society

March 16, 1948

Johnson County Medical Society met March 16 in Cleburne with G. V. Brindley, P. M. Ramey, and Olin B. Gober, all of Temple, presenting the program. Preceding the scientific program, the physicians had dinner together.

Grayson County Society

April 13, 1948

(Reported by Robert W. Duncan, Secretary)

Problems in Plastic Surgery—Truman G. Blocker, Galveston.

Thirty-two members and guests of Grayson County Medical Society met April 13 in Sherman to hear Truman Blocker, Galveston, discussion some problems in plastic surgery. The delegate to the State Medical Association was instructed to oppose any increase in state dues.

Hardeman-Cottle-Foard-Motley Counties Society

March 25, 1948

(Reported by J. F. Hughes, Secretary)

Diagnosis of Heart Disease—W. H. Gordon, Lubbock.
Roentgen Diagnosis of Gastro-Intestinal and Urinary Tracts—A. G. Barsh, Lubbock.

Fourteen members and four guests of Hardeman-Cottle-Foard-Motley Counties Medical Society were entertained at a steak dinner in Paducah by C. C. Pate, after which the program outlined was given.

Kerr-Kendall-Gillespie-Bandera Counties Society

Members of Kerr-Kendall-Gillespie-Bandera Counties Medical Society have been attending a series of lectures at the Veterans Administration Hospital at Legion. Chauncey D. Leake, dean of the University of Texas Medical Branch, Galveston, gave the first lecture in the series on March 19, his subject being

"Chemotherapy and Antibiotics." Daniel E. Jenkins, professor of internal medicine, Baylor University College of Medicine, Houston, lectured March 25 on "Early Tuberculosis Lesions and Their Treatment." John Chapman, Dallas, spoke March 29 on "Respiratory Function Tests." Phillip Pizzolato, New Orleans, spoke April 5 on "Early Signs and Other Stages of Cancer." The series closed April 8 with a lecture on "Drug Addiction and Related Problems" by William F. Ossenfort of the U. S. Public Health Service Hospital, Fort Worth. The lecture series was planned primarily for the medical staff of the hospital at Legion.

Lubbock-Crosby Counties Society

April 8, 1948

(Reported by Roy G. Loveless, Secretary)

Hydatidiform Mole and Chorionepithelioma—Clarence Mast, Lubbock.

Thirty-five members and three visitors were present for the meeting of Lubbock-Crosby Counties Medical Society in Lubbock on April 8 at which the paper named was presented.

The delegate to the State Medical Association was instructed to favor change of central headquarters to Austin and, upon motion, was left uninstructed concerning a proposed Taylor Memorial Fund.

The society approved the chest examination of all Texas Technological College students by a mobile x-ray unit of the Tuberculosis Division of the State Health Department.

Dale W. Douglas was unanimously elected to membership.

Pecos-Jeff Davis-Presidio-Brewster Counties Society

March 7, 1948

(Reported by W. E. Lockhart, Secretary)

Coronary Occlusion—Ralph Homan, El Paso.

Seven members and twelve guests of the Pecos-Jeff Davis-Presidio-Brewster Counties Medical Society met at the Indian Lodge near Fort Davis on March 7 for the scientific paper named. The possibility of meeting jointly with Reeves-Ward-Winkler-Loving-Culberson-Hudspeth Counties Medical Society was discussed. Walter H. Stover, Marfa, was elected to membership upon application, J. C. Kearn, Sanderson, upon transfer.

April 4, 1948

(Reported by W. E. Lockhart, Secretary)

Pecos-Jeff Davis-Presidio-Brewster Counties Medical Society had a business meeting April 4 in Fort Stockton with six members and nine visitors present.

John W. Pate, Sanderson, was named delegate to the State Medical Association, with C. E. Oswalt, Fort Stockton; A. H. Robertson, Iraan, and other members who might attend the annual session as alternate delegates. A proposed increase in state dues to $50 per year was discussed and approved. Construction of new quarters for the central office, the possibility of financing the building on a per capita basis, and the possibility of locating the headquarters in Austin instead of Fort Worth were discussed but no action was taken.

A. E. Barrett, Fort Stockton, was unanimously nominated for honorary membership in the State Medical Association.

Various communications were read.

Navarro County Society

April 5, 1948

Cause and Treatment of Convulsive Disorders—Jack I. Woolf, Dallas.

The paper named was presented April 5 in Corsicana before Navarro County Medical Society. Opie Wills is president; Paul Mitchell, secretary.

Tarrant County Society

April 2, 1948

(Reported by W. P. Higgins, Jr., Secretary)

A special meeting of Tarrant County Medical Society was held April 2 in Fort Worth to discuss the possibility of the removal of the State Medical Association headquarters to Austin. Following a general discussion, a motion made by T. C. Terrell was passed, calling on the society to undertake immediately the raising of "a minimum of $50,000 over a period of five years for the purpose of holding the Library and the Association headquarters in Fort Worth." A motion requesting the president to "appoint a committee to canvass the members for raising this fund and to investigate the availability of real estate for this proposed project" was also passed.

Tom Green-Eight County Society

March 1, 1948

(Reported by Carl A. Kunath, Secretary)

Use of Anticoagulants in Treatment of Coronary Occlusion—G. L. Nesrsta, San Angelo.
Discussion—F. T. McIntire, Lloyd R. Hershberger, and Henry N. Ricci, San Angelo.

Tom Green-Eight County Medical Society met March 1 in San Angelo with thirty members and five visitors present. Following a lengthy discussion of a proposed city-county chronic disease hospital in which the general feeling appeared to be that the immediate need in San Angelo is for more hospital beds for acute cases rather than for chronic diseases, a motion made by J. A. Bunyard was passed unanimously endorsing the proposed chronic disease hospital in principle only and authorizing the president to appoint a committee to work with other committees on the project and convey to them the various opinions expressed in the medical society discussion. F. T. McIntire, chairman; Victor Schulze, J. A. Bunyard, and H. M. Anderson were appointed to the committee.

It was decided that at present there are not enough cancer facilities locally to warrant establishment of a cancer committee.

March 30, 1948

(Reported by Carl A. Kunath, Secretary)

Comparison of Induced and Uninduced Obstetric Patients—R. L. Powers, San Angelo.
Discussion—K. B. Round, Clay H. Johnson, H. K. Brask, J. M. Rape, and R. J. Axtell, San Angelo, and William J. Swann, Sterling City.

A called meeting of Tom Green-Eight County Medical Society was held March 30 in San Angelo. The paper named was presented.

A discussion of the failure of the telephone company to comply with the request of the society regarding listings in the physicians' section of the yellow pages resulted in the appointment of a committee consisting of R. E. Windham, chairman; Harvey Williams, and Chase Thompson instructed to tell the telephone company that unless the specialty headings are worked according to the wishes of the society, all members of the society will withdraw their listings from that section of the directory.

L. K. Tester announced that the American Cancer Society had offered to install an information bureau in downtown San Angelo at a cost of approximately $3,600 a year to be staffed by a person qualified to answer the questions of the public in regard to cancer, provided the medical society approved. Upon motion by R. J. Axtell, the society voted unanimously to approve the project.

No action was taken on several communications relating to business to come before the House of Delegates at the annual session of the State Medical Association. Members were requested to think about the proposed increase in dues, the proposed change of location of the state headquarters, and the proposed Holman Taylor Memorial so that definite

instructions might be given the delegate at the next meeting.

Webb-Zapata-Jim Hogg Counties Society

April 6, 1948

(Reported by M. Valls, Secretary)

Diagnostic Problems in Thoracic Surgery—L. M. Shefts, San Antonio.

Webb-Zapata-Jim Hogg Counties Medical Society met April 6 in Laredo for the scientific paper named. Several matters of importance in instructing the delegate to the State Medical Association were voted on.

Third District Society

April 13-14, 1948

April 13

President's Address—A. E. Winsett, Amarillo.

MEDICAL SECTION

E. A. Rowley, Amarillo, Chairman
W. H. Wheir, Amarillo, Secretary

Diet in Diabetes Mellitus—Edwin L. Rippy, Dallas.
Discussion—R. M. Bellamy, Pampa.
Infectious Hepatitis—C. T. Stone, Galveston.
Discussion—Landria C. Smith, Plainview.
Functional Disorders of Digestion—C. T. Stone, Galveston.
Discussion—R. E. Clark, Memphis.

EYE, EAR, NOSE AND THROAT SECTION

Refraction Problems—C. E. High, Pampa.
Discussion—Fred J. Crumley, Amarillo.
Present Day Concepts of Cataract Surgery—W. E. Vandevere, El Paso.
Discussion—Nan Gilkerson, Amarillo.
Malignancies of the Eye Lid—Hal W. Maxwell, Fort Worth.
Discussion—A. J. Streit, Amarillo.
Iritis—Ben B. Hutchinson, Lubbock.
Discussion—J. F. Powell, Dalhart, and Charles B. Jones, Wellington.
Management of Chronic Sinusitis—James T. Hall, Lubbock.
Discussion—F. B. Malone, Lubbock.
Treatment of Residual Lymphoid Hypertrophy of Nasopharynx with X-Ray and Radium—Frank Duncan, Amarillo.
Discussion—R. B. Payne and J. H. Vaughn, Amarillo.
Radiation Treatment of Hypertrophic Lymphoid Tissue—H. L. Wilder, Pampa.

April 14

OBSTETRICS AND GYNECOLOGY SECTION

Jason Robberson, Amarillo, Chairman
Ernestine Smith, Amarillo, Secretary

Chairman's Address—Jason Robberson, Amarillo.
Pelvic Cellulitis: Clinical Features—A. W. Diddle, Dallas.
Discussion—M. M. Ewing, Lubbock.
Cancer of the Cervix—John Wall, Houston.
Discussion—Evelyn Powers, Amarillo.
Fluid Complications in Relation to Operations upon Pelvic Viscera—Carl A. Moyer, Dallas.
Discussion—E. W. Jones, Wellington.
Dystocia in Obstetrics with X-Ray—E. G. McCarthy, Plainview.

SURGICAL SECTION

Howard Puckett, Amarillo, Chairman
P. R. Garre, Amarillo, Secretary

Chairman's Address—Howard Puckett, Amarillo.
Recent Advances in Management of Varicose Veins—Penn Riddle, Dallas.
Discussion—Lee Hale, Lubbock.
Management of Bladder Neck Obstruction—Harold A. O'Brien, Dallas.
Discussion—Jan R. Werner, Amarillo.
Preoperative and Postoperative Care—Carl A. Moyer, Dallas.
Discussion—M. C. Overton, Pampa.
Radiological Procedures of Value in Diagnosis of Abdominal Disorders—J. R. Maxfield, Jr., Dallas.
Discussion—Royal F. Wertz, Amarillo.

The Third District Medical Society met April 13 and 14 in Amarillo for the scientific program outlined. Luncheons were held each of the two days and a banquet and dance on the evening of April 13.

Election of officers was held with the following results: Charlie Jones, Wellington, president-elect; R. M. Bellamy, Pampa, vice-president; and Kenneth R. Flamm, Amarillo, secretary. C. E. High, Pampa, took office as president.

The next meeting will be held in Lubbock, October 5-6.

Fourteenth District Society

June 8, 1948

The North Texas Medical Society will hold its annual spring meeting at Greenville on June 8 with an exceptionally well-rounded one day program, according to announcement by W. I. Southerland, Sherman, president. The association, comprised of practitioners in the Fourteenth District, meets semiannually for a full day of topics designed primarily for the physician doing general practice.

A luncheon program this year will feature "Information, Please," a panel discussion by various guest speakers on questions submitted by those in attendance. Included on the program are such topics as "Care of Premature Infants," "Early Ambulation in Surgery and Obstetrics," "Surgical Treatment for Blue Babies," "Treatment in Severe Trauma," "Rheumatic Heart Disease in Children," "Indigestion," "Radio-Isotopes in Medical Practice," and "Management of the Rh-Negative Mother."

Registration will begin at 9 a. m. at the Greenville Municipal Building, where the program will be held. The luncheon at 12:30 p. m. is to be at the Washington Hotel. At 7 p. m. a basket picnic by the Auxiliary to the Hunt-Rockwall-Rains Counties Medical Society has been arranged, to which all North Texas Medical Society members and their wives are invited.

AUXILIARY NOTES

Officers of the Woman's Auxiliary to the State Medical Association of Texas: President, Mrs. Edward C. Ferguson, Beaumont; President-Elect, Mrs. S. M. Hill, Dallas; First Vice-President, Mrs. A. N. Boyd, Houston; Second Vice-President, Mrs. H. P. Ledford, Wichita Falls; Third Vice-President, Mrs. A. L. Delaney, Liberty; Fourth Vice-President, Mrs. W. Frank Armstrong, Fort Worth; Recording Secretary, Mrs. M. A. Ramsdell, San Antonio; Corresponding Secretary, Mrs. W. G. Wallace, Beaumont; Publicity Secretary, Mrs. J. F. Campbell, Fort Worth; Treasurer, Mrs. J. Guy Jones, Dallas; Parliamentarian, Mrs. Paul Brindley, Galveston.

A. M. A. AUXILIARY TO MEET

Wives of physicians, whether members of medical auxiliaries or not, have been invited to attend the general sessions and social functions when the Woman's Auxiliary to the American Medical Association meets in Chicago, June 21-25. The headquarters for the meeting will be at Hotel LaSalle on the mezzanine floor. Visitors should register early and obtain badges and programs. Tickets should be purchased soon after arrival.

Sunday and Monday, June 20 and 21, will be devoted primarily to committee meetings and registration, with a tea in honor of Mrs. Eustace A. Allen, Atlanta, Ga., president, and Mrs. Luther H. Kice, Garden City, N. Y., president-elect, to be given the afternoon of June 21. The twenty-fifth annual meeting will open formally the morning of Tuesday, June 22, and business sessions will be held on that day and the day following. Thursday, June 24, will be devoted to a meeting of the board of directors, the annual dinner for members, husbands, and guests, and the reception and ball in honor of the President of the American Medical Association. Friday, June 25, has been left free for enjoying the exhibits at Navy Pier.

Dr. Morris Fishbein, Chicago, editor of *The Journal of the American Medical Association* and *Hygeia*, will be guest speaker at a luncheon honoring past presidents on Tuesday, June 22. Guests at the annual luncheon in honor of the president and president-elect on Wednesday, June 22, will include Dr. Edward L. Bortz, president; Dr. R. L. Sensenich, president-elect; Dr. J. J. Moore, treasurer; Dr. George F. Lull, secretary and general manager; and Dr. Fishbein, editor, of the American Medical Association.

Mrs. George Turner, El Paso, constitutional secretary; Mrs. Scott C. Applewhite, San Antonio, chairman of the finance committee; and Mrs. Frank N. Haggard, San Antonio, who will install new of-

ficers, are among the Texans who will take an active part in the national meeting.

AUXILIARY NEWS

Burnet-Lampasas-Llano Counties Auxiliary met March 23 at the home of Dr. and Mrs. Joe A. Shepperd, Burnet, to elect officers. Mrs. H. J. Hoerster, Llano, was named president; Mrs. R. R. Shepperd, Llano, vice-president; Mrs. R. L. Shepperd, Llano, secretary-treasurer; and Mrs. Joe A. Shepperd, Burnet, reporter. The auxiliary voted to have one member from each town in the three counties arrange with the school superintendent for a meeting between a registered nurse and any girls who might be interested in studying nursing. Members voted to give $1 each toward furniture for the infirmary to be built at the Colorado Lakes Area Girl Scout Camp.—Mrs. Joe A. Shepperd, Reporter.

Cass-Marion Counties Auxiliary had dinner jointly with the medical society in Hughes Springs, March 10. The auxiliary meeting following the meal was held in the home of Mrs. H. L. D. Jenkins, who presented Mrs. Hiram Ryle and Miss Ina Gene McMillan in musical numbers. A business meeting followed.

El Paso County Auxiliary entertained at dinner April 3 in El Paso to honor husbands of the members in a "Doctors' Day" observance. Mrs. John D. Peticolas was chairman of arrangements, assisted by Mesdames William A. Collins, Jr., W. Compere Basom, and John D. Martin. Mrs. F. G. Evans headed the telephone committee.

Talks on "Health Insurance" by Mrs. Gray Carpenter and on "Problems in Sanitation" by Harold Tillman were featured at a tea given by the El Paso Auxiliary in El Paso, April 5. Mrs. Leigh Wilcox and Mrs. Delphin von Briesen were hostesses, assisted by Mesdames Leslie Smith, Andrew Souda, Maurice Spearman, Erich Spier, Celso Stapp, Burleson Staten, H. E. Stevenson, S. D. Swope, J. W. Tappan, F. L. Terrell, A. A. Treece, W. M. Tubb, S. T. Turner, James Vance, Leo Villareal, H. H. Varner, A. Villareal, S. G. Von Almen, Newton Walker, B. M. Wirsham, M. R. Vinakoff, Charles Webb, and H. S. White.—Mrs. W. W. Scheussler.

Harris County Auxiliary had a meeting on "Texas History" March 29 in Houston. Hostesses were Mesdames Theo Tusa, W. A. Ford, T. L. Holland, Homer Prince, Thomas Royce, A. A. Ledbetter, Harvey Kincaid, Palmer Wigby, Lyle Logue, Charles Hollub, George Owen, and Edward Fitch.

An open meeting featuring three physicians was held by the Harris County Auxiliary on April 12 in Houston. Dr. P. A. Wheeler, chairman, introduced Dr. Russell Blattner, who spoke on "Pediatrics"; Dr. Warren T. Brown, who spoke on "Psychiatry"; and Dr. Dan Jenkins, who spoke on "Diseases of the Chest." There was special music by a chorus from the Woman's Club under the direction of Carroll Alt. Hostesses were Mesdames R. Marion Johnson, chairman; Carl Shirley, cochairman; Burt Smith, Charles Reese, Joe Foster, John Stough, Edmond Doak, Charles Potts, Albert Dashiell, M. D. Levy, Jack Hild, Frank Renfrow, H. J. Ehlers, J. T. Billups, Wade Harris, Oscar Selke, Jr., Truett Melton, Wendell Hamrick, Thomas Vanzant, and Clyde Warner.—Mrs. C. Gary Turner.

Hunt-Rockwall-Rains Counties Auxiliary met recently in the home of Mrs. J. W. Ward, Greenville, for a spring luncheon with members of the health and Hygeia committee as hostesses. They included Mesdames Ward, Frank Parker, Jr., W. P. Philips, S. D. Whitten, Fred Carruthers, T. C. Strickland, Wendell Pool, Fred Peak, Benton Clark, and H. E. Mehmert.

Mrs. Pauline Jordan, director of the Hunt County Special School, presented an example of the work at the school through discussion of a case history. Mrs. E. T. Crim gave the devotional.

Kerr-Kendall-Gillespie-Bandera Counties Auxiliary met April 2 with Mrs. J. H. Perry, Fredericksburg. Mesdames Victor Keidel and H. A. Tubbs were cohostesses. A program on public relations, the second of a series, was presented by Mrs. David McCullough, assisted by Mrs. W. E. Gregg and Mrs. R. Stevenson. The auxiliary voted to do away with tea assessments and to amend the by-laws to raise dues to $3.50 per year. Various reports of committees were given.—Mrs. D. E. Packard, Secretary.

McLennan County Auxiliary observed "Public Relations Day" March 31 in Waco, with Dr. Howard Wells, president of the medical society, as guest speaker. Dr. Wells discussed the importance of keeping the public informed about contagious diseases and recommended that the auxiliary help establish a medical library. Approximately forty women were at the meeting, for which hostesses were Mesdames D. D. Warren, chairman; B. F. Roche, Clay Weekly, Shelby Spencer, Milton Sparks, J. E. Talley, and Lawrence Collins. Mrs. Stanley Howard, president, presided at the refreshment table.

Palo Pinto-Parker Counties Auxiliary enjoyed a luncheon at the Baker Hotel, Mineral Wells, preceding its annual business meeting in the home of Mrs. J. D. McCall. Officers were elected as follows: Mrs. Platt L. Allen, Weatherford, president; Mrs. John C. Allensworth, Mineral Wells, vice-president; Mrs. John Merrick, Weatherford, secretary; Mrs. R. C. Jordan, Mineral Wells, treasurer; Mrs. J. D. McCall, Mineral Wells, historian; and Mrs. Ben L. McCloud, Jr., Mineral Wells, publicity chairman.

Plans were made for a picnic May 8 honoring doctors of the Palo Pinto-Parker Medical Society.

Potter County Auxiliary met recently in Amarillo for luncheon and the annual election of officers. Mrs. R. R. Swindell was elected president; Mrs. Ralph Carroll, first vice-president; Mrs. W. R. Klingensmith, second vice-president; Mrs. Merrill Winsett, secretary; Mrs. F. J. Crumley, treasurer; Mrs. E. A. Rowley, parliamentarian; Mrs. Howard Puckett, public relations chairman.

Tarrant County Auxiliary elected officers at a luncheon in Fort Worth, March 12. They included Mesdames J. Franklin Campbell, president; H. O. Deaton, president-elect; T. J. W. Shoemaker, first vice-president; Burgess Sealy, second vice-president; Noel Bailey, recording secretary; I. H. Readinger, corresponding secretary; J. T. Kramer, treasurer; Hub Isaacks, publicity secretary; W. R. Thompson, parliamentarian; and X. R. Hyde, historian. Members-at-large elected to the board were Mesdames A. B. Pumphrey, J. J. Andujar, and Tom Bond.

Tom Green-Eight County Auxiliary held an installation service April 5 at the home of Mrs. Kermit Brask, San Angelo. Mrs. John B. Davenport installed the following officers: Mesdames W. B. Butner, president; Chase Thompson, first vice-president; Lloyd R. Hershberger, second vice-president; Gordon Madding, secretary; W. Lacey Smith, treasurer; James N. White, publicity chairman; and W. Grady Mitchell, parliamentarian.

Mrs. Perry J. C. Byars was elected delegate to the state meeting, and Mrs. James N. White was named alternate. Committees for the year were appointed.

Mrs. Brask and Mrs. Mitchell were hostesses at a tea hour. Twenty-one members and two visitors were present.—Mrs. M. D. Knight.

Washington County Auxiliary met in Brenham early in April for luncheon with Mrs. Roger Knolle, president, presiding. Mrs. W. F. Tottenham gave the invocation.

Mrs. Vincent DeFoy read a paper on "Cancer of

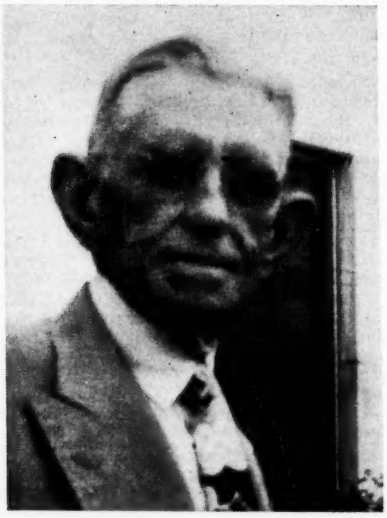
the Breast" by Frankie Adair, M. D., and Mrs. W. F. Hasskarl presented a paper on "Cancer of the Uterus" by Howard C. Taylor, Jr., M. D. Mrs. Sam H. Toubin, cancer project chairman, reported that 16,000 pamphlets on cancer had been distributed among the churches of Washington, Burleson, and Lee Counties and 800 pamphlets were placed in the Negro public schools of Brenham.—Mrs. W. F. Hasskarl.

DEATHS*

Dr. Thomas S. Falvey, Conroe, Texas, died March 15, 1948, of arteriosclerosis.

Born July 21, 1874, in Angelina County, Dr. Falvey was the son of Dr. James C. and Matilda Falvey. He received his medical education at the University of the South, Sewanee, Tenn., from which he was graduated in 1900, and he later did postgraduate work in New York. Dr. Falvey practiced for six years in Louisiana and for short periods in several Texas towns. For the past twenty-eight years he had been active in Montgomery County. In 1936 he and Dr. W. M. Holland formed a partnership which resulted in the Falvey-Holland Clinic at Conroe.

A member throughout most of his professional life of the State Medical Association and American Medical Association, Dr. Falvey had been a member of the Montgomery County Medical Society continuously since 1924. He was health officer of Montgomery County and city health officer of Conroe. He had



DR. THOMAS S. FALVEY

been a surgeon for several lumber companies and was local surgeon for the Santa Fe Railway. He was a member of the Presbyterian Church at Conroe, the Masonic Lodge at Wells, the Conroe Chapter of Royal Arch Masons, Huntsville Commandery of Knights Templar, and Arabia Temple Shrine of Houston. He had extensive land and oil holdings in East Texas. Dr. Falvey had recently constructed a Methodist Church at Wells in memory of his parents.

Dr. Falvey married Miss Ruby Evans in 1928 at Houston. He is survived by his wife; two daughters, Capt. Susan Falvey Sims, San Antonio, and Mrs. Olive Falvey Wilson, Conroe; one son, Thomas S. Falvey, Jr., Conroe; five brothers, Dr. J. C. Falvey, Longview; R. N. Falvey, Wells; C. W. Falvey, Houston; Paul Falvey, Texarkana; and Joe Falvey, Cleveland; and two sisters, Mrs. Bryan Berry, Cleveland, and Mrs. Daisy Hurd, Houston.

Dr. John Newton Lightsey died at his home in Cotulla, Texas, March 17, 1948, of heart disease.

Dr. Lightsey was born October 24, 1882, at Gatesville, the son of George W. and Nannie (Abbott) Lightsey. He received his preliminary education in Runge, and his medical education at the University of Texas School of Medicine, Galveston, from which he was graduated in 1911. He later did postgraduate work at Tulane University, New Orleans. Following his graduation from medical school, Dr. Lightsey began practice in Bee County. In 1924 he moved to Cotulla, where he was active until his death with the exception of the period during which he served in World War I.

Dr. Lightsey was a member of the State Medical Association and American Medical Association throughout most of his professional career, first through Bee County Medical Society and then through La Salle-Frio-Dimmit Counties Medical Society. He was president of the latter society in 1938 and 1939. He had served as local surgeon for the Missouri Pacific Railroad since 1914 and as La Salle County health officer since 1916. He was a member of the Baptist Church, the Masonic Lodge, the Cotulla Chamber of Commerce, and the American Legion.

Surviving Dr. Lightsey are his wife, the former Miss Grace Naylor of Beeville, whom he married August 20, 1913; one daughter, Bernice Lightsey, San Antonio; three sisters, Mrs. Sudie Blankenship, Gatesville; Mrs. Will Hardy, New Waverly; and Mrs. Jim Schley, Teague; and two brothers, George A. Lightsey, Gatesville, and Louis P. Lightsey, Artesia Wells.

Dr. Arthur North, Corpus Christi, Texas, died March 13, 1948, of cardiac decompensation and pulmonary edema.

Born July 15, 1872, in London, England, Dr. North was the son of Samuel and Annie (Dingey) North. He attended Massachusetts Institute of Technology, Cambridge, Mass., and Northwestern University, Evanston, Ill., and was graduated in medicine from the University of Arkansas, Little Rock, in 1907. He served an internship at the Arkansas State Hospital, Little Rock, and a residency at the Chicago Postgraduate Hospital. He practiced for short periods in Little Rock and Corning, Ark., and from 1912 until 1923 was located in Bartlesville, Okla. Since 1923 he had practiced in Corpus Christi.

Throughout his residence in Texas, Dr. North was a member of Nueces County Medical Society, the State Medical Association, and the American Medical Association. In 1947 he was elected to honorary membership in the county society and the state association. He was also an honorary member of the Southern Medical Association. He had served as a physician for the United States Department of Justice and was physician for the county jail. He was a member of local draft boards during both world wars and was a member of the Citizens Defense Corps.

On November 5, 1923, in Sherman, Dr. North married Miss Fern Leota Gillmouth. He is survived by his wife; four daughters, Mrs. Rose Rowley, Corpus Christi; Mrs. Lucy Cottingham, Austin; Mrs. Louisa A. Kubas, Baton Rouge, La.; and Mrs. Mabel G. Waldeman; two sons, Walter Charles North and Frank Albert North, both of Corpus Christi; and one sister and one brother, Miss Annie Webster North and Harold North, of Dundee, New Zealand.

*An obituary ordinarily will not be published more than four months after date of death. Cooperation in reporting deaths of physicians and in furnishing appropriate biographical material promptly is solicited.

Dr. Samuel Doak Fry died February 27, 1948, at his home in Ladonia, Texas, of diabetes and heart disease.

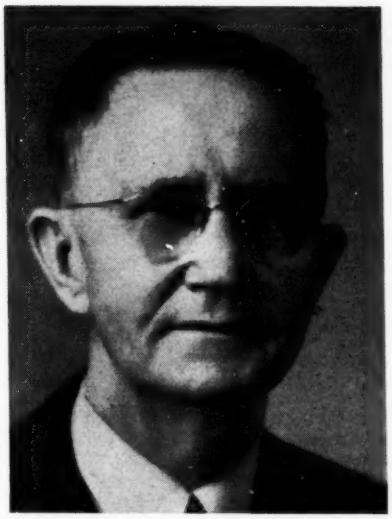
The son of William Wallace and Saphronia (Abernathy) Fry, Dr. Fry was born August 31, 1866, in Ladonia. He attended the schools in Ladonia and old Louisville Medical College, Louisville, Ky., from which he was graduated in 1890. He returned to Ladonia to practice, and was active there for forty-eight years.

Dr. Fry was a member of Fannin County Medical Society, the State Medical Association, and the American Medical Association throughout most of his professional life.

Surviving Dr. Fry are two half-sisters, Mrs. W. L. Dillard and Mrs. Jim Pippin, both of Ladonia; one half-brother, Alphonzo Fry, Breckenridge; and several nephews and nieces.

Dr. Joseph Ervin Gower, Spearman, Texas, died February 29, 1948, in a Shattuck, Okla., hospital of acute nephritis.

Dr. Gower was born September 24, 1876, in Mountain View, Ark., the son of J. S. and Lovisa Gower. He attended high school in Batesville, Ark., and Little Rock Medical College. His medical degree was obtained at Kansas City College of Medicine and Surgery in 1919. He later did postgraduate work at Tulane University, New Orleans, and Baylor University, Dallas. Dr. Gower practiced for five years



DR. J. E. GOWER

at Mountain View and eight years at Culp in Arkansas before coming to Texas. He practiced at Lipscomb for three years, and had been at Spearman for twenty-five years.

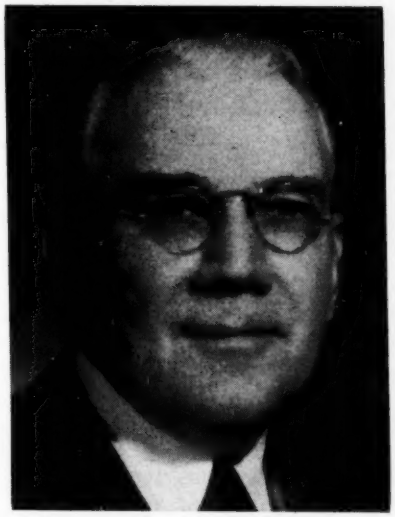
In 1922 and 1923 and again continuously since 1929, Dr. Gower was a member of the State Medical Association and American Medical Association, through Hansford-Hemphill-Lipscomb-Roberts-Ochiltree Counties Medical Society. He was county health officer and a member of the Masonic Order.

Surviving Dr. Gower are his wife, the former Miss Anna Theresa Emmett, whom he married April 5, 1916, in Culp, Ark.; two daughters, Mrs. Fern Moser and Miss Jo Anna Gower; and one son, C. R. Gower, all of Spearman; one brother, John B. Gower, Mountain View, Ark.; and one granddaughter.

The citizens of Spearman are nominating Dr. Gower to receive a Carnegie Medal for heroism posthumously. Dr. Gower, the only physician in the county, worked long hours during a blizzard shortly before his death, ignoring his own weakness from exposure and illness, to serve his patients.

Dr. George Holmes, Gonzales, Texas, died in a San Antonio hospital March 24, 1948, of coronary thrombosis.

Son of W. F. M. and Melissa (Thomas) Holmes, Dr. Holmes was born September 11, 1881, in Leesville. He attended the public schools in Leesville and secured his medical education at the University of Texas School of Medicine, Galveston, and Tulane University, New Orleans, being graduated from the latter institution in 1905. For the next ten years Dr. Holmes practiced in Leesville. In 1915 he moved to Gonzales, where he was active until his death. He



DR. GEORGE HOLMES

established the Holmes Hospital there in 1921 and more recently was instrumental in founding the Gonzales Warm Springs Foundation, of which he was a director.

Continuously since 1906 Dr. Holmes was a member of the State Medical Association and American Medical Association through Gonzales County Medical Society, of which he was president in 1936, 1937, and at the time of his death. He was also a member of the Fifth and Sixth Districts Medical Society and a fellow of the American College of Surgeons. He was a member of Odd Fellows, the Rotary Club, and Gonzales Chamber of Commerce. Dr. Holmes was a medical examiner for Selective Service during World War I.

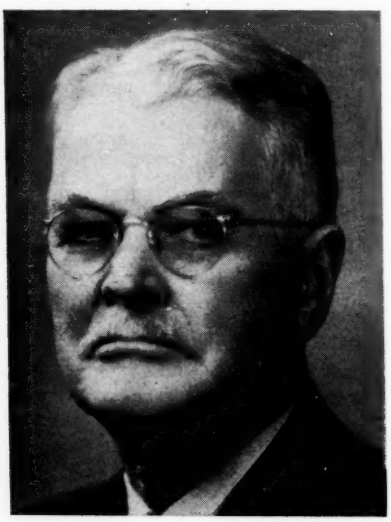
On November 29, 1906, in Leesville, Dr. Holmes married Miss Celestine Haynes, who preceded him in death on May 17, 1943. He is survived by two daughters, Mrs. J. S. Davis, Alice, and Mrs. J. Barker Story, Corpus Christi; one son, George V. Holmes, Gonzales; three brothers, Sam Holmes, Leesville; Y. W. Holmes, Comanche; and Steve Holmes, Houston; and one sister, Mrs. Edna Jones, Gonzales.

Dr. Ichem Warner Jenkins, Waco, Texas, died March 1, 1948, of carcinoma of the prostate.

Born in Martling, Ala., on August 5, 1880, Dr. Jenkins was the son of Francis Marion and Eliza

(Leverett) Jenkins. He was one of seven sons, of whom six became physicians. Dr. Jenkins received his medical education at old Grant University, Chattanooga, Tenn. He practiced in Hughes Springs from 1901 to 1907, in Penelope from 1907 to 1920, and in Waco from 1920 until his death. He specialized in radiology.

Dr. Jenkins had been a member of the State Medical Association and American Medical Association since 1911, first through Hill County Medical Society and then through McLennan County Medical Society. He was chairman of the Section on Radiology and Physiotherapy of the State Medical Association in 1929 and in 1937, and was president of McLennan County Medical Society in 1930. He was a fellow



DR. I. WARNER JENKINS

of the American College of Physicians and the American College of Radiology, a past president and member of the Texas Radiology Society, and a member of the Radiological Society of North America. He was a diplomate of the American Board of Radiology. He was a member of the Methodist Church, Rotary Club, a thirty-second degree Mason, a member of the Shrine and of Knights Templar. One of Dr. Jenkins' chief interests was farming, and he owned a farm west of Waco. He was one of the organizers of the Heart of Texas Polled Hereford Society, of which he was a director, and he kept registered herds of cattle and sheep. Dr. Jenkins was also interested in office photography of his patients.

Dr. Jenkins is survived by his wife, the former Miss Della Williamson, whom he married in 1903 at Boaz, Ala.; two daughters, Mrs. Maurice C. Barnes, and Mrs. C. M. Burke, both of Waco; and four brothers, Dr. Horace Jenkins, Bynum; Dr. Homer Jenkins, Hughes Springs; C. L. Jenkins, Dallas; and Dr. F. H. Jenkins, Columbus, Ohio.

Dr. Clay Johnson, Fort Worth, Texas, died March 7, 1948, of cerebral hemiplegia.

The son of Samuel C. and Emily M. Johnson, Dr. Johnson was born January 2, 1867, in Dawsonville, Ga. He attended North Georgia Agricultural and Mechanical College and old Emory College, then at Oxford, Ga. His medical education was received at the College of Physicians and Surgeons, Baltimore, Md., from which he was graduated in 1891. He went to Europe for postgraduate study, and returned to practice in Corsicana until 1906, when he moved to Fort Worth. He was in active practice until about five years ago, part of the time operating Johnson's Sanitarium and later associated with the Johnson and Beall Hospital. He was chief surgeon for the Fort Worth and Denver Railroad from 1928 until 1940.

Almost continuously throughout his professional life Dr. Johnson was a member of the State Medical Association and American Medical Association, first through Navarro County Medical Society and then through Tarrant County Medical Society. He was chairman of the Section on Gynecology and Obstetrics of the State Medical Association in 1920. He was president of the board of education in Fort

DR. CLAY JOHNSON

Worth at the time Paschal High School was built, a member of the Tarrant County Welfare Board in 1933, and a member of the Tarrant County War Price and Rationing Board during World War II. He was intensely interested in farming and ranching and had a ranch near San Angelo until recently. He owned a wheat ranch in the Panhandle. He was a director of the First National Bank in Fort Worth and a member of the Methodist Church.

Several weeks before his death, Dr. Johnson and his wife celebrated their golden wedding anniversary. Survivors include Dr. Johnson's wife, the former Miss Alice Jester of Corsicana, a sister of Governor Beauford Jester; two daughters, Mrs. E. J. McCurdy, Fort Worth, and Mrs. George Thomas, Covington, La.; two sons, Clay Johnson, Jr., Fort Worth, and Claude Johnson, Dalhart; and one sister, Mrs. W. E. Matchett, Dallas.

Dr. Frederick Jonathan Roemer died February 21, 1948, at his home in Port Lavaca, Texas, of heart disease.

Born February 23, 1878, near Green Lake, Texas, Dr. Roemer was the son of Adolph and Josephine (Wilmers) Roemer. After attending the public schools of Port Lavaca, Dr. Roemer attended Vanderbilt University, Nashville, Tenn., and was graduated from Memphis Hospital Medical College, Memphis, Tenn., in 1904. He was located at the Hardy-McNeese Hospital, Ardmore, Okla., from 1904 until 1907, when he began practice in Port Lavaca.

During most of his professional career Dr. Roemer was a member of the Victoria-Calhoun-Goliad Counties Medical Society, the State Medical Association, and the American Medical Association. He was local surgeon for the Missouri Pacific and Southern Pacific Railroads for about ten years, county health officer from 1928 until his death, and Selective Service examining physician in both world wars. He was a member of the Methodist Church and served on its board of stewards for many years. He was a thirty-second degree Mason and a member of the Arabia Shrine. He was one of the original directors of the Intra-Coastal Canal Association, and held the position of director at the time of his death. Dr. Roemer had extensive farm and ranch holdings with fine Brahma cattle and was an enthusiastic horticulturist.

Dr. Roemer married Miss Annie Amelia Camferdam at Memphis, Tenn., April 30, 1904. He is survived by his wife; one daughter, Mrs. Earle Sessions; one son, Ronal J. Roemer, D.D.S.; one sister, Mrs. S. L. Marsh; and two brothers, O. P. Roemer and P. O. Roemer, all of Port Lavaca.

Dr. Ira Fredericq Peak, Greenville, Texas, died December 23, 1947.

The son of Dr. and Mrs. P. A. Peak, Dr. Peak was born September 25, 1894, in Greenville. He attended the public schools in Greenville and Burleson College there. He was graduated in medicine from the University of Tennessee, Memphis, in 1920. After serving an internship at Western State Hospital, Bolivar, Tenn., Dr. Peak joined the regular Army, serving in the Medical Corps until his retirement in 1943 as a lieutenant colonel. For the next two years he was located at the Traverse City State Hospital,

DR. I. F. PEAK

Traverse City, Mich. He then returned to Greenville and to private practice. Dr. Peak specialized in psychiatry.

Dr. Peak was a member of the Hunt-Rockwall-Rains Counties Medical Society, the State Medical Association, and the American Medical Association. He was a member of the American Psychiatric Association and the Association of Military Surgeons. He was a member of the Episcopal Church, Theta Kappa Psi fraternity, and the Elks.

Surviving Dr. Peak are his wife, the former Miss Ruby Wolfert of Chicago, and two brothers, Clyde Peak, Greenville, and S. H. Peak, Houston. A son, Ira Fredericq Peak, Jr., was killed in World War II.

Dr. Hugh Simpson Tullos died at his home in San Antonio, Texas, on March 15, 1948, of coronary occlusion.

Born November 6, 1898, in Floresville, Texas, Dr. Tullos was the son of George R. and Mary Jane (McKenzie) Tullos. He attended the Floresville High School, Bowen Preparatory School, Nashville, Tenn., and the University of Texas, receiving his medical degree from Vanderbilt University, Nashville, Tenn., in 1921. He served an internship at the Woman's Hospital of the State of Tennessee, Nashville, and

DR. HUGH SIMPSON TULLOS

residencies at the State Hospital, Hazelton, Pa., and a government hospital at Colon, Panama. He practiced for fifteen years at West and had been in San Antonio for the past ten years.

During the years of his practice in Texas, Dr. Tullos was a member of the State Medical Association and American Medical Association, first through Guadalupe County Medical Society, then through McLennan County Medical Society, and more recently through Bexar County Medical Society. Dr. Tullos was a member of the Baptist Church, Phi Beta Pi fraternity, the San Antonio Chamber of Commerce, the American Legion, and the S. P. J. S. T. Lodge. He was a captain in the Army Medical Corps during World War I.

Dr. Tullos married Miss Roberta L. Thomas on January 21, 1926, in San Antonio. He is survived by his wife; one daughter, Miss Jane Tullos; two sons, Thomas R. Tullos and Hugh S. Tullos, Jr.; and three sisters, Miss Stella Tullos, Mrs. Alice T. Tom, and Mrs. Exa T. Burger, all of San Antonio.

Dr. Arthur E. Sweatland, councilor of the Tenth District since 1926, died at his home in Lufkin, Texas, March 9, 1948, of cerebral hemorrhage.

Dr. Sweatland was born October 6, 1869, in Michigan, the son of Lafayette and Lydia Sweatland. He attended the public schools of Ithaca, Mich., and the University of Michigan. He was graduated from Bellevue Hospital Medical College, New York, in 1895. He lived in Shepherd, Mich., for several years

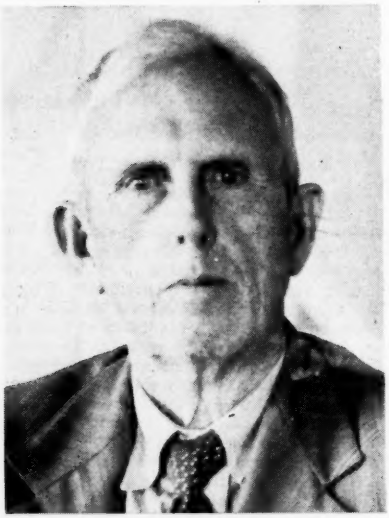
following his graduation, practicing medicine and farming: He then was located in Little Rock, Ark., for ten years being professor of anatomy at the University of Arkansas. He moved to Texas and operated a hospital in Nacogdoches for several years immediately preceding World War I. During the war he was a captain in the Army Medical Corps, and upon his discharge, he began practice in Lufkin, where he remained until his death.

Dr. Sweatland was a member of the State Medical Association and American Medical Association continuously from 1915 until his death, first through Nacogdoches County Medical Society and then through Angelina County Medical Society. He had held all the offices of the Angelina County Society, being secretary in 1933, 1934, and 1938, and president in 1939. He was named councilor of the Tenth District in 1926. He was a member of the South Texas District Medical Society and the Postgraduate Medical Assembly of South Texas. He was a charter member of the Lufkin Lions Club, a member of the Elks, vice-president and director of the First State Bank, and a leader in the Republican Party in his section of the state.

Dr. Sweatland is survived by his wife, Mrs. Bessie Sweatland, and one brother, Ben D. Sweatland, Lufkin.

Dr. William Young Ward, Dodd City, Texas, died at his home March 25, 1948, of heart disease.

A native of Spring City, Tenn., Dr. Ward was born January 2, 1871, the son of William Nelson and Louisiana Ward. He received his medical degree from Tulane University, New Orleans, in 1901, and soon moved to Fannin County. He practiced in that area, primarily at Duplex and Ivanhoe, until about



DR. WILLIAM Y. WARD

a year ago, when he retired and moved to Dodd City. He had practiced for a short time at Commerce.

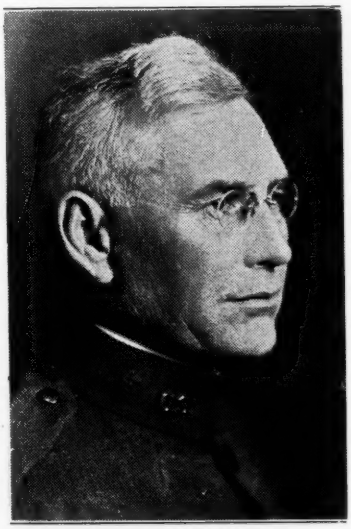
Dr. Ward was a member of the Fannin County Medical Society, the State Medical Association, and the American Medical Association. He was a deacon in the Baptist Church.

Surviving Dr. Ward is a daughter, Miss Ruth Corinne Ward, Dodd City, and a sister, Mrs. Annie Love, Telephone. His wife, the former Miss Maude Alice Peterson, whom he married November 24, 1904, in Duplex, died in 1930.

Dr. John Knox Webster died March 18, 1948, of pulmonary embolism at his home in Athens, Texas.

The son of W. J. and Isabel (Kelly) Webster, Dr. Webster was born February 6, 1867, at Carthage, N. C. The family moved to Texas, and Dr. Webster received his early education in Athens. He was graduated in medicine from the Kentucky School of Medicine, Louisville, in 1891, and did postgraduate work at Tulane University, New Orleans. Dr. Webster practiced for a time at Cross Roads and Malakoff, but soon returned to Athens, where he was in practice until 1942, when failing health caused his retirement.

Dr. Webster was a charter member of the Henderson County Medical Society, being one of its founders, and was president of the society in 1937. He was a member of the State Medical Association, being elected to honorary membership in 1943, and was a member of the American Medical Association. He was also a member and past president of the Eleventh District Medical Society. He served four years as Henderson County health officer. Dr. Webster was a captain in the Army during World



DR. JOHN KNOX WEBSTER

War I and was later active in the National Guard, being organizer and commanding officer with the rank of major of a hospital company. He was twice elected commander of the Brady Shelton Post of the American Legion, was once vice-president of the Sons of the Confederacy of Texas, was a past patron of the Eastern Star, past master of the Masonic Lodge at Athens and at Malakoff, and a member of the Knights of Pythias. He was a member of the Presbyterian Church, being elected an elder when he was 20 years of age. Dr. Webster was special surgeon for the basketball and football teams of Athens High School, and the teams had presented him with a ring and a silver cup in appreciation for his services. He was made local surgeon for the Texas and New Orleans Railroad twenty-eight years ago and served until his health failed.

Survivors include Dr. Webster's wife, the former Miss Mattie D. Smith, whom he married in Malakoff February 28, 1897; two daughters, Mrs. R. C. Patterson, Whitesboro, and Mrs. Flora Tapp, Dallas; one son, William S. Webster, Garland; and one sister, Mrs. Mollie Weaver, Los Angeles.